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UNITED STATES DISTRICT COURT
DISTRICT OF ARIZONA

UNITED STATES OF AMERICA,

Plaintiff,

v.

ALCATEL NETWORK SYSTEMS,
AMERICAN NATIONAL CAN COMPANY,
ARIZONA PUBLIC SERVICE COMPANY,
AT&T CORPORATION,
BULL HN INFORMATION SYSTEMS, INC.,
DIGITAL EQUIPMENT CORPORATION,
GENERAL INSTRUMENT CORPORATION,
HONEYWELL INC.,
INTEL CORPORATION,
MARICOPA COUNTY, ARIZONA,
REYNOLDS METALS COMPANY,
SHELL OIL COMPANY,
AAMCO COMPANY, INC.,
ACTION CHEMICAL COMPANY,
ADVANCED TECHNOLOGY LABORATORIES, INC.,
ALLIED SIGNAL, INC.,
AMD INDUSTRIES, INC.
f/k/a UNION MANUFACTURING,

CIV 94-1821 PHX RCB

Civil Action No.

CONSENT DECREE

4

AMERICAN PARTS SYSTEMS, INC.,)
 ANOCAD PLATING & PAINTING COMPANY, INC.,)
 ARIZONA PETROLEUM CONTRACTORS)
 & CONSULTANTS, INC.,)
 ARIZONA PRECISION SHEET METAL COMPANY,)
 ARIZONA TANK LINES, INC.,)
 ASHLAND CHEMICAL COMPANY,)
 ATLANTIC RICHFIELD COMPANY, INC.,)
 BEAN & COMPANY, INC.,)
 BECHTEL POWER CORPORATION,)
 BERSET CESSPOOL SERVICE,)
 BILLY WAYNE AUSTIN d/b/a BILL'S GRADING,)
 BIO-LAB, INC.,)
 BUD WEST COMPANY, INC.,)
 CHAMPION INTERNATIONAL CORPORATION,)
 CHEMICAL WASTE MANAGEMENT, INC.,)
 CHEVRON U.S.A. INC.,)
 CHURICK AUTO PAINTING INC.)
 d/b/a MAACO AUTO PAINTING & BODYWORKS,)
 CONTINENTAL CIRCUITS CORP.,)
 CURRY NEAL, Ltd., PARTNERSHIP,)
 DAN J. OBELE,)
 DUNN-EDWARDS CORPORATION,)
 EASON WALLER COMPANY,)
 F & B MFG. CO.,)
 FARMER'S AGDUSTRIES, INC.,)
 FRAZEE INDUSTRIES,)
 FRAZEE PAINT & WALLCOVERING,)
 FRED'S PUMPING COMPANY,)
 GILBERT ENGINEERING COMPANY, INC.,)
 GOETTL AIR CONDITIONING, INC.,)
 GOULD INC.,)
 GOWAN COMPANY,)
 GREEN GENIE NURSERIES, INC.,)
 GTE COMMUNICATION SYSTEMS CORPORATION,)
 HELENA CHEMICAL COMPANY, INC.,)
 HUBBELL HERMETIC REFRIGERATION, INC.,)
 ITT CANNON, INC.,)
 KARLSON MACHINE WORKS, INC.,)
 MCGRAW-EDISON COMPANY, INC.,)
 MCKESSON CORPORATION,)
 MOTOROLA INC.,)
 PHIL'S PUMPING & ELECTRIC ROOTER)
 SERVICE; PHIL'S SEPTIC COMPANY,)
 PHOENIX HEAT TREATING, INC.,)
 PHOENIX NEWSPAPERS, INC.,)
 PIERCE AVIATION, INC.,)
 POWERINE OIL COMPANY,)
 PRESTIGE CLEANERS, INC.,)
 RAMADA ENERGY SYSTEMS, INC.,)
 RINGIER AMERICA, INC.)
 f/k/a W.A. KRUEGER CO.,)
 ROGERS CORPORATION,)
 R.R. & R.R. EVANS COMPANY, INC.,)

SANTA FE PACIFIC PIPELINE, INC.,)
SOUTHWEST DISTRIBUTING COMPANY,)
SQUARE D COMPANY,)
STATE OF ARIZONA, ARIZONA DEPARTMENT OF)
PUBLIC SAFETY; ARIZONA DEPARTMENT OF)
HEALTH SERVICES,)
TED LEVINE DRUM COMPANY,)
TEXACO REFINING AND MARKETING INC.,)
THE DEXTER CORPORATION,)
THE DIAL CORPORATION)
a/k/a ARMOUR RESEARCH CTR.,)
THE HIGHSMITH COMPANY, INC.)
ROLAMECH DIVISION,)
THE RINCHEM COMPANY,)
THE SHERWIN-WILLIAMS COMPANY,)
TIERNAY TURBINES COMPANY, INC.,)
TIERNAY CASTINGS COMPANY, INC.,)
TREFFERS PRECISION COMPANY, INC.,)
UNION CARBIDE CORPORATION,)
VALLEY STEEL COMPANY, INC.)
a/k/a VALLEY STEEL & SUPPLY CO.,)
VALLEY WASTE, VALLEY STEEL SOLID)
WASTE AND VSS CO, INC.,)
WASTE MANAGEMENT OF ARIZONA, INC.,)
WILBUR-ELLIS COMPANY,)

Defendants.

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APPENDICES

"Appendix A" is the Hassayampa Record of Decision.

"Appendix B" is the Hassayampa Consent Decree Scope of Work.

"Appendix C" is the description and map of the Hassayampa Landfill.

"Appendix D" is the complete list of the Non-Owner Settling Defendants.

"Appendix E" is the complete list of the Owner Settling Defendants.

"Appendix F" is the complete list of the De Minimis Settling Defendants and their volumetric rankings.

"Appendix G" is the complete list of Settling Federal Agencies, their volumetric rankings and the payment schedule applicable to them.

CONSENT DECREE

I. BACKGROUND

A. The United States of America ("United States"), on behalf of the Administrator of the United States Environmental Protection Agency ("EPA"), filed a complaint in this matter pursuant to sections 106 and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act of 1986 ("CERCLA"), 42 U.S.C. §§ 9606 and 9607.

B. The Plaintiff in its complaint seeks, inter alia: (1) reimbursement of costs incurred by the United States other than the Settling Federal Agencies for response actions at the Hassayampa Landfill Superfund Site in Maricopa County, Arizona, together with accrued interest; and (2) performance of studies and response work by the Defendants at the Site consistent with the National Contingency Plan, 40 C.F.R. Part 300 (as amended) ("NCP").

C. In accordance with the NCP and section 121(f)(1)(F) of CERCLA, 42 U.S.C. § 9621(f)(1)(F), EPA notified the State of Arizona (the "State") on September 18, 1992 of negotiations with potentially responsible parties regarding the implementation of the remedial design and remedial action for the Site, and EPA has provided the State with an opportunity to participate in such negotiations and be a party to this Consent Decree.

D. In accordance with section 122(j)(1) of CERCLA, 42 U.S.C. § 9622(j)(1), EPA notified the Department of the Interior on February 9, 1993 of negotiations with potentially responsible parties regarding the release of hazardous substances that may have resulted in injury to the natural resources under Federal

trusteeship and encouraged the trustee to participate in the negotiation of this Consent Decree.

E. The Defendants that have entered into this Consent Decree ("Settling Defendants" and "De Minimis Settling Defendants") do not admit any liability to the Plaintiff arising out of the transactions or occurrences alleged in the complaint. The Settling Federal Agencies, as defined herein, do not admit any liability arising from the transactions or occurrences at the Site or alleged in any claim or counterclaim asserted, or that could be asserted, by the Defendants.

F. Pursuant to section 105 of CERCLA, 42 U.S.C. § 9605, EPA placed the Site on the National Priorities List, set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on July 21, 1987, 52 Fed. Reg. 140.

G. In response to a release or a substantial threat of a release of hazardous substances at or from the Site, in 1988 a group of the Defendants (Hassayampa Steering Committee, or "HSC") commenced a remedial investigation and feasibility study ("RI/FS") for the Site pursuant to 40 C.F.R. § 300.430.

H. Under the direction and oversight of EPA, HSC completed a Remedial Investigation ("RI") Report on April 4, 1991, and completed a Feasibility Study ("FS") Report on May 20, 1992, pursuant to an Administrative Consent Order (Docket No. 88-08) executed on April 8, 1988 on behalf of the Director of the Toxics & Waste Management Division, U.S. EPA Region IX.

I. Pursuant to section 117 of CERCLA, 42 U.S.C. § 9617, EPA published notice of both the completion of the FS and the proposed plan for remedial action on June 1, 1992, in the Buckeye Daily News, a major local newspaper of general circulation. EPA

provided an opportunity for written and oral comments from the public on the proposed plan for remedial action. A copy of the transcript of the public meeting is available to the public as part of the administrative record upon which the Regional Administrator based the selection of the response action.

J. The decision by EPA selecting the remedial action to be implemented at the Site is embodied in a final Record of Decision ("ROD"), executed on August 6, 1992, to which the State has given its concurrence. The ROD includes a summary of EPA's responses to the public comments. Notice of the final plan was published in accordance with section 117(b) of CERCLA, 42 U.S.C. § 9617(b).

K. On March 30, 1993, EPA issued a Unilateral Order for certain remedial design activities ("Order"), EPA docket number 93-09. Certain of the Settling Defendants are named as Respondents under the Order.

L. Based on the information presently available to EPA, EPA believes that the Work will be properly and promptly conducted by the Settling Defendants if conducted in accordance with the requirements of this Consent Decree and its appendices.

M. Solely for the purposes of section 113(j) of CERCLA, the Remedial Action selected by the ROD and the Work to be performed by the Settling Defendants shall constitute a response action taken or ordered by the President.

N. EPA has determined that settlement with each of the De Minimis Settling Defendants and each of the Settling Federal Agencies involves only a minor portion of the response costs at the Site.

O. Based on the information presently available to EPA, for each De Minimis Settling Defendant and each Settling Federal

Agency, both the amount and the toxic or other hazardous effects of the hazardous substances contributed by that party to the Site are minimal in comparison to the other hazardous substances at the Site.

P. The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and implementation of this Consent Decree will expedite the cleanup of the Site and will avoid prolonged and complicated litigation between the Parties, and that this Consent Decree is fair, reasonable, practicable, and in the public interest.

NOW, THEREFORE, it is hereby Ordered, Adjudged, and Decreed:

II. JURISDICTION

1. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1345, and 42 U.S.C. §§ 9606, 9607, and 9613(b). This Court also has personal jurisdiction over the Defendants. Solely for the purposes of this Consent Decree and the underlying complaint, Defendants waive all objections and defenses that they may have to jurisdiction of the Court or to venue in this District. Defendants shall not challenge the terms of this Consent Decree or this Court's jurisdiction to enter and enforce this Consent Decree.

III. PARTIES BOUND

2. Application of Consent Decree

This Consent Decree applies to and is binding upon the United States and upon Defendants and their successors and assigns. Any change in ownership or corporate status of a Defendant including, but not limited to, any transfer of assets

or real or personal property shall in no way alter such Defendant's responsibilities under this Consent Decree.

3. Distribution of Consent Decree Copies by Settling Defendants

Settling Defendants shall provide a copy of this Consent Decree to the Supervising Contractor (as defined below) and shall condition all contracts entered into hereunder upon performance of the Work in conformity with the terms of this Consent Decree. Settling Defendants or their Supervising Contractor shall provide written notice of the Consent Decree to all contractors and subcontractors hired to perform any portion of the Work required by this Consent Decree. Settling Defendants shall nonetheless be responsible for ensuring that their contractors and subcontractors perform the Work contemplated herein in accordance with this Consent Decree. With regard to the activities undertaken pursuant to this Consent Decree, the Supervising Contractor and all contractors and subcontractors shall be deemed to be in a contractual relationship with the Settling Defendants within the meaning of section 107(b)(3) of CERCLA, 42 U.S.C. § 9607(b)(3).

IV. DEFINITIONS

4. Unless otherwise expressly provided herein, terms used in this Consent Decree which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Consent Decree or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

"ACO" shall mean the Administrative Consent Order, EPA

Docket No. 88-08, under which a remedial investigation and the feasibility study were prepared for the Site.

"ADEQ" shall mean the Arizona Department of Environmental Quality and any successor departments or agencies of the State.

"CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 et seq.

"Consent Decree" shall mean this Consent Decree and all appendices attached hereto (listed in Section XXX), including the Record of Decision and the Scope of Work. In the event of conflict between this Consent Decree and any appendix, this Consent Decree shall control.

"Date of Entry" shall mean the date this Consent Decree is signed by the United States District Court for the District of Arizona.

"Date of Lodging" shall mean the date this Consent Decree is filed with the Clerk of the Court for the United States District Court for the District of Arizona.

"Day" shall mean a calendar day unless expressly stated to be a working day. "Working day" shall mean a day other than a Saturday, Sunday, or Federal holiday. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day.

"Defendants" shall mean the "Settling Defendants" and the "De Minimis Settling Defendants."

"De Minimis Settling Defendants" shall mean the named defendants listed in Appendix F (De Minimis Settling Defendants) who are signatories to this Consent Decree.

"EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

"Feasibility Study" or "FS" shall mean the feasibility study for the Site completed by HSC under the ACO and approved by EPA on May 20, 1992.

"Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States other than the Settling Federal Agencies incurs in reviewing or developing plans, reports and other items pursuant to this Consent Decree or the Order, verifying the Work, or otherwise implementing, overseeing, or enforcing this Consent Decree or the Order, including, but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Sections VII, VIII, X (including, but not limited to, attorneys fees and the amount of just compensation), XVI, and Paragraph 103 of Section XXII. Future Response Costs shall also include all costs, including direct and indirect costs, paid by the United States other than the Settling Federal Agencies in connection with the Site between July 31, 1992 and the effective date of this Consent Decree, and payroll costs of the United States other than the Settling Federal Agencies from July 11, 1992 to the effective date of this Consent Decree.

"Hassayampa Landfill" shall mean the property owned by Maricopa County located in Maricopa County, Arizona, within the Southeast one-quarter of Section 3, Township 1 South, Range 5 West, about 40 miles west of Phoenix, Arizona; bounded on the east by Old Wickenburg Road, on the southwest by Salome Road and on the north by the east-west line bisecting Section 3; and

depicted generally on Appendix C.

"HSC" shall mean the Hassayampa Steering Committee, a group of Defendants which has conducted the Remedial Investigation and Feasibility Study for the Site.

"National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, including, but not limited to, any amendments thereto.

"Operation and Maintenance" or "O&M" shall mean all activities required to maintain the effectiveness of the Remedial Action as required under the operation and maintenance manuals or revisions thereto approved or developed by EPA pursuant to this Consent Decree and the Scope of Work (SOW).

"Order" shall mean the Unilateral Administrative Order for certain remedial design activities issued by EPA Region IX on March 30, 1993, EPA docket number 93-09.

"Owner Settling Defendant" shall mean the Settling Defendant listed in Appendix E.

"Paragraph" shall mean a portion of this Consent Decree identified by an arabic numeral or an upper case letter.

"Parties" shall mean the United States and the Defendants.

"Past Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, but not including interest, that the United States other than the Settling Federal Agencies incurred and paid with regard to the Site prior to July 11, 1992 for EPA payroll costs, and prior to July 31, 1992 for all other costs, excluding such costs paid to EPA by or on behalf of Settling Defendants as of the effective date of this Consent

Decree.

"Performance Standards" shall mean those cleanup standards, standards of control, and other substantive requirements, criteria or limitations set forth in the ROD and in the SOW.

"Plaintiff" shall mean the United States on behalf of EPA.

"RCRA" shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901 et seq. (also known as the Resource Conservation and Recovery Act).

"Record of Decision" or "ROD" shall mean the EPA Record of Decision relating to the Site signed on August 6, 1992, by the Regional Administrator, EPA Region IX, and all attachments thereto.

"Remedial Action" shall mean those activities, except for Operation and Maintenance, to be undertaken by the Settling Defendants to implement the final plans and specifications submitted by the Settling Defendants pursuant to the Remedial Design Work Plan and approved by EPA.

"Remedial Design" shall mean those activities to be undertaken by the Settling Defendants to develop the final plans and specifications for the Remedial Action pursuant to the Remedial Design Work Plan.

"Remedial Design Work Plan" shall mean the document submitted by the Settling Defendants pursuant to Subparagraph 14.a of this Consent Decree and described more fully in the SOW.

"Remedial Investigation" or "RI" shall mean the remedial investigation for the Site completed by HSC under the ACO and approved by EPA on April 4, 1991.

"RI/FS" shall mean the Remedial Investigation and the Feasibility Study.

"Scope of Work" or "SOW" shall mean the scope of work for implementation of the Remedial Design, Remedial Action and Operation and Maintenance at the Site, as set forth in Appendix B to this Consent Decree and any modifications made in accordance with this Consent Decree.

"Section" shall mean a portion of this Consent Decree identified by a roman numeral.

"Settling Defendants" shall mean those Parties identified in Appendices D (Non-Owner Settling Defendants) and E (Owner Settling Defendant).

"Settling Federal Agencies" shall mean those agencies, departments or instrumentalities of the United States identified in Appendix G.

"Site" shall mean the Hassayampa Landfill Superfund site, which shall mean the 10-acre area of the Hassayampa Landfill where hazardous wastes are known to be disposed, as well as any areas where site-related contaminants have come to be located.

"State" shall mean the State of Arizona.

"Subparagraph" shall mean a portion of this Consent Decree identified by a lower-case letter.

"Supervising Contractor" shall mean the principal contractor retained by the Settling Defendants to supervise and direct the implementation of the Work under this Consent Decree.

"United States" shall mean the United States of America, including its agencies, departments, and instrumentalities.

"Waste Material" shall mean: (1) any "hazardous substance" under section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under section 101(33), 42 U.S.C. § 9601(33); and (3) any "solid waste" under section 1004(27) of

"Work" shall mean all activities Settling Defendants are required to perform under this Consent Decree, except those required by Section XXVI (Retention of Records).

V. GENERAL PROVISIONS

5. Objectives of the Parties

a. The objectives of the Parties in entering into this Consent Decree are to protect public health or welfare or the environment at the Site by the funding, design and implementation of response actions not inconsistent with the NCP at the Site by the Settling Defendants and to reimburse response costs of the United States other than the Settling Federal Agencies, and to resolve past and future claims against Defendants as set forth in this Consent Decree. In addition, this Consent Decree seeks to resolve the contribution counterclaims or claims in recoupment that have been or could have been asserted against the United States by the Settling Defendants, as provided in Section XXIII (Covenants by Settling Defendants and Settling Federal Agencies).

b. The State of Arizona enters into this Consent Decree as a De Minimis Settling Defendant with respect to only those claims against the State based upon the transportation and disposal of the manifested waste listed in Appendix F that is ascribed to the Arizona Department of Public Safety and the Arizona Department of Health Services, both of which are agencies of the State of Arizona. In entering into this Consent Decree the Parties do not intend to release the State for any liability of the State other than the liability of the State for the transport of, or arranging for the disposal of, the manifested

waste ascribed to the State in Appendix F of this Consent Decree. No other claim, or cause of action or defense asserted between the State of Arizona and the Settling Defendants shall be affected by this Consent Decree, including other claims that have been asserted by Settling Defendants against the State of Arizona in Alcatel Information Systems, et al. v. State of Arizona, et al., No. CIV-89-0188-PHX-RCB (D. Ariz.). The de minimis settlement with the State for the manifested waste in Appendix F, and all terms, conditions, and requirements in the Consent Decree that apply to the de minimis settlement with the State, shall apply to the State of Arizona, the Arizona Department of Public Safety, and the Arizona Department of Health Services, and to their respective officials, employees, contractors and agents only with respect to such manifested waste.

6. Commitments by Defendants and Settling Federal Agencies

a. Each De Minimis Settling Defendant shall make a payment to the Settling Defendants in contribution toward Settling Defendants' payment of Past and Future Response Costs and performance of the Work. Each Settling Federal Agency shall make a payment to the Settling Defendants in accordance with Subparagraph 63.a, in contribution toward Settling Defendants' payment of Past and Future Response Costs and performance of the Work. De Minimis Settling Defendants are subject to all provisions and requirements of this Consent Decree which reference Defendants or De Minimis Settling Defendants, including but not limited to Paragraph 34 of Section X (Access); Section XXVI (Retention of Records); Section XXI (Stipulated Penalties) (to the extent applicable to De Minimis Settling Defendants); Paragraph 62 of Section XVII (Reimbursement and Payment of

Response Costs); Section XXII (Covenants Not to Sue by Plaintiff); and Section XXIII (Covenants by Defendants and Settling Federal Agencies).

b. Settling Defendants shall finance and perform the Work in accordance with this Consent Decree and all plans, standards, specifications, and schedules set forth in or developed and approved by EPA pursuant to this Consent Decree. Settling Defendants shall also reimburse the United States (other than the Settling Federal Agencies) for Past Response Costs and Future Response Costs as provided in Section XVII (Reimbursement and Payment of Response Costs) of this Consent Decree.

c. The obligations of Settling Defendants to finance and perform the Work and to pay amounts owed the United States other than Settling Federal Agencies under this Consent Decree are joint and several. In the event of the insolvency or other failure of any one or more Settling Defendants to implement the requirements of this Consent Decree, the remaining Settling Defendants shall complete all such requirements.

7. Compliance With Applicable Law

All activities undertaken by Settling Defendants pursuant to this Consent Decree shall be performed in accordance with the requirements of all applicable federal and state laws and regulations. Settling Defendants must also comply with all applicable or relevant and appropriate requirements of all Federal and state environmental laws as set forth in the ROD and the SOW. The activities conducted pursuant to this Consent Decree, if approved by EPA, shall be considered to be consistent with the NCP.

8. Unauthorized Activities

As set forth in section 122(e)(6) of CERCLA, 42 U.S.C. § 9622(e)(6), Defendants shall conduct no remedial activities at the Site except as specifically authorized under this Consent Decree, as required by and in furtherance of the Work under this Consent Decree or under an order issued by EPA, or as specifically authorized, in writing, by EPA.

9. Permits

a. As provided in section 121(e) of CERCLA, 42 U.S.C. § 9621(e), and § 300.5 of the NCP, 40 C.F.R. § 300.5, no permit shall be required for any portion of the Work conducted entirely on-site. Where any portion of the Work requires a federal or state permit or approval, Settling Defendants shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals. The location of the Unit B injection well as constructed under the Order is within the Hassayampa Landfill, which is coextensive with the site as defined on the National Priorities List, and is considered on-site for purposes of this Subparagraph.

b. The Settling Defendants may seek relief under the provisions of Section XIX (Force Majeure) of this Consent Decree for any delay in the performance of the Work resulting from a failure to obtain, or a delay in obtaining, any permit required for the Work.

c. This Consent Decree is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

10. Notice of Obligations to Successors-in-Title

a. Within fifteen (15) days after the Date of Entry

of this Consent Decree, the Owner Settling Defendant shall record a certified copy of this Consent Decree (with Appendices C, D, E, F and G, but excluding Appendices A and B) with the Recorder's Office, Maricopa County, State of Arizona. Thereafter, each deed, title, or other instrument conveying an interest in any property included in the Site shall state that the property is subject to this Consent Decree and shall reference the recorded location of the Consent Decree and any restrictions applicable to the property under this Consent Decree.

b. The obligations of the Owner Settling Defendant with respect to the provision of access under Section X (Access) and the implementation of institutional controls as set forth in the SOW shall be binding upon any and all such Settling Defendants and any and all persons who subsequently acquire any such interest or portion thereof (hereinafter "Successors-in-Title"). Within fifteen (15) days after the Date of Entry of this Consent Decree, the Owner Settling Defendant shall record at the Recorder's Office a notice of obligation to provide access under Section X (Access) and related covenants. Each subsequent instrument conveying an interest to any such property included in the Site shall reference the recorded location of such notice and covenants applicable to the property.

c. The Owner Settling Defendant and any Successor-in-Title shall, at least thirty (30) days prior to the conveyance of any such interest, give written notice of this Consent Decree to the grantee and written notice to EPA of the proposed conveyance, including the name and address of the grantee, and the date on which notice of the Consent Decree was given to the grantee. In the event of any such conveyance, the Settling Defendants'

obligations under this Consent Decree, including their obligations to provide or secure access pursuant to Section X, shall continue to be met by the Settling Defendants. In addition, if EPA approves, the grantee may perform some or all of the Work under this Consent Decree. In no event shall the conveyance of an interest in property that is, includes, or is a portion of, the Site release or otherwise affect the liability of the Settling Defendants to comply with the Consent Decree.

11. Headings

The headings set forth before Sections and Paragraphs in this Consent Decree and its Table of Contents are included for convenience of reference only and shall be disregarded in the construction and interpretation of any of the provisions of this Consent Decree.

VI. PERFORMANCE OF THE WORK BY SETTLING DEFENDANTS

12. Selection of Supervising Contractor

a. All aspects of the Work to be performed by Settling Defendants pursuant to Sections VI (Performance of the Work by Settling Defendants), VII (Additional Response Actions), VIII (U.S. EPA Periodic Review), and IX (Quality Assurance, Sampling and Data Analysis) of this Consent Decree shall be under the direction and supervision of the Supervising Contractor, the selection of which shall be subject to disapproval by EPA after a reasonable opportunity for review and comment by the State. The initial Supervising Contractor designated by Settling Defendants, and approved by EPA, pursuant to this Consent Decree shall be Errol L. Montgomery & Associates, Inc., 7949 East Acoma Drive, Suite 100, Scottsdale, Arizona 85260, telephone number (602) 948-7747, fax number (602) 948-8737. If at any time Settling

Defendants propose to change a Supervising Contractor, Settling Defendants shall give notice to EPA including the name, title and qualifications of the proposed Supervising contractor, and must obtain an authorization to proceed from EPA, after a reasonable opportunity for review and comment by the State, before the new Supervising Contractor performs, directs, or supervises any Work under this Consent Decree.

b. If EPA disapproves a proposed Supervising Contractor, EPA shall notify Settling Defendants in writing. In such event, Settling Defendants shall submit to EPA a list of contractors, including the qualifications of each contractor, that would be acceptable to them within thirty (30) days after receipt of EPA's disapproval of the contractor previously proposed. EPA will provide written notice of the names of any contractor(s) that it disapproves and an authorization to proceed with respect to any of the other contractors. Settling Defendants may select any contractor from that list that is not disapproved and shall notify EPA of the name of the contractor selected within twenty-one (21) days of EPA's authorization to proceed.

c. If EPA fails to provide written notice of its authorization to proceed or disapproval as provided in this Paragraph and this failure prevents the Settling Defendants from meeting one or more deadlines in a plan approved by the EPA pursuant to this Consent Decree, Settling Defendants may seek relief under the provisions of Section XIX (Force Majeure) hereof.

13. Incorporation of Activities Under the Order

a. In the event that any of the reports specified in

Subparagraph 13.b below, which are required to be submitted by Respondents under the Order, are not submitted to EPA on or before the date designated in Subparagraph 13.b or as altered by Subparagraph 13.c, then, effective on that date, all of the activities described in section IX of the Order (Work to be Performed) and in the scope of work for the Order not yet completed by that date shall be incorporated in this Consent Decree as Work to be performed by Settling Defendants under this Consent Decree, and shall thereafter be subject to all of the requirements of this Consent Decree, including but not limited to Section XXI (Stipulated Penalties).

b. The reports to be submitted by Respondents under the Order, referred to in Subparagraph 13.a above, are:

<u>Report Name</u>	<u>Last Day to Submit Without Incorporation Under Consent Decree</u>
Additional Investigation Report	382 Days After Effective Date of Order
Treatability Study Report	351 Days After Effective Date of Order
Vadose Zone Analytical Modeling Report	448 Days After Effective Date of Order
Cap Construction Report	480 Days After Effective Date of Order
Groundwater Pilot Study Inspection Report	405 Days After Effective Date of Order

c. The scope of work to the Order sets forth due dates of, and the times provided for the processes of, EPA approval, EPA concurrence, and project meetings for submittals under the Order. In the event that EPA determines that Respondents' submission of any report(s) specified in Subparagraph 13.b has been delayed because the approval process,

concurrence process, or project meeting process for any submittal under the Order was not concluded within the time provided for such actions in the schedules set forth in the scope of work to the Order, then EPA shall extend the date(s) designated in Subparagraph 13.b by the amount of the delay in submission of the report(s) that was attributable to EPA, as determined by EPA. Such extension shall not include any time required to modify and resubmit any submittal disapproved by EPA under the Order. Settling Defendants may dispute any determination made by EPA under the first two sentences of this Subparagraph by invoking the procedures in Section XX (Dispute Resolution). EPA may, in its nonreviewable discretion, take into account any force majeure events, and elect to postpone the due dates in Subparagraph 13.b.

d. In the event that activities under the Order become Work to be performed under this Consent Decree as provided in this Paragraph:

i. the relevant portions of the Order, including but not limited to schedules and section IX (Work to be Performed) of the Order, shall be incorporated into this Consent Decree by reference as though fully set forth in this Paragraph;

ii. the incorporated provisions of the Order shall be binding upon the signatories to this Decree, and references to "Respondents" therein shall be read to include Settling Defendants.

e. After incorporation of activities into this Consent Decree under the provisions of this Paragraph, Settling Defendants may seek relief under the provisions of Section XIX (Force Majeure), if Settling Defendants were unable to obtain access to property as required by section XIX of the Order within

the time allowed in that Order, and the delays in obtaining access prevented Settling Defendants from timely performing any activities which have been incorporated into this Consent Decree. Verbal notice of such force majeure claim, as required by Section XIX (Force Majeure), shall be given by Settling Defendants within ten (10) days after the incorporation of such activities into this Consent Decree, or such claim of force majeure shall be precluded.

f. Notwithstanding anything to the contrary in this Paragraph, this Consent Decree shall be controlling in the event any language or term in this Consent Decree conflicts with or is inconsistent with any provision of the Order incorporated herein.

g. Nothing in this Paragraph or in this Consent Decree shall relieve or affect any obligation of any Respondent under the Order if that Respondent is not a Settling Defendant under this Consent Decree.

14. Remedial Design

a. On or before the date specified in the SOW, Settling Defendants shall submit to EPA a work plan for the design of the Remedial Action ("Remedial Design Work Plan"). The Remedial Design Work Plan shall provide for design of the remedy set forth in the ROD in accordance with the SOW. With the Remedial Design Work Plan, the Settling Defendants shall submit to EPA a Health and Safety Plan for field design activities which conforms to the applicable Occupational Safety and Health Administration and EPA requirements including, but not limited to, 29 C.F.R. § 1910.120. Settling Defendants need not submit such Health and Safety Plan unless EPA notifies Settling Defendants that the Health and Safety Plan submitted under the

Order does not meet the requirements of this Subparagraph.

b. The Remedial Design Work Plan shall include plans and schedules for implementation of all remedial design tasks identified in the SOW, including, but not limited to, plans and schedules for the completion of the:

- i. Soil Remediation Design Criteria Technical Memo;
- ii. Soil Remedial Design Report;
- iii. Groundwater Remediation Design Criteria Technical Memo (if required by EPA);
- iv. Groundwater Hydraulic Containment Evaluation Report;
- v. Groundwater Remedial Design Report (if required by EPA); and
- vi. Performance Standards Verification Plan - Groundwater.

c. Upon approval of the Remedial Design Work Plan by EPA, after a reasonable opportunity for review and comment by the State, and submittal of the Health and Safety Plan for all field activities to EPA, Settling Defendants shall implement the Remedial Design Work Plan. The Settling Defendants shall submit to EPA all plans, submittals and other deliverables required under the approved Remedial Design Work Plan in accordance with the approved schedule for review and approval pursuant to Section XII (Submissions Requiring Agency Approval). Unless otherwise authorized by EPA, Settling Defendants shall not commence further Remedial Design activities at the Site prior to approval of the Remedial Design Work Plan.

15. Remedial Action

a. Settling Defendants shall construct the remedy, in accordance with the ROD, the SOW, and the design plans, schedules, and specifications in the approved design submittals. Settling Defendants shall prepare a Soil Remediation Construction Work Plan and, if required by EPA, a Groundwater Extraction/Treatment/Reinjection Construction Work Plan.

b. The Soil Remediation Construction Work Plan shall be submitted as part of the Soil Remedial Design Report and shall include the following:

- i. the schedule for completion of the Soil Remedial Action;
- ii. a description of and schedule for each construction activity and associated reporting requirements;
- iii. a Project Management Plan which includes the method for the selection of the contractor;
- iv. a Construction Quality Assurance Plan;
- v. a Construction Contingency Plan; and
- vi. a Construction Health and Safety Plan which conforms to the applicable Occupational Safety and Health Administration and EPA requirements including, but not limited to, 29 C.F.R. § 1910.120.

c. The Groundwater Extraction/Treatment/Reinjection-Construction Work Plan, if required by EPA, shall be submitted as part of the Groundwater Remedial Design Report and shall include the following:

- i. the schedule for the completion of the

- additional Groundwater Remedial Action;
- ii. a description of and schedule for each construction activity and associated reporting requirements;
 - iii. a Project Management Plan which includes the method for the selection of the contractor;
 - iv. a Construction Quality Assurance Plan;
 - v. a Construction Contingency Plan; and
 - vi. a Construction Health and Safety Plan which conforms to the applicable Occupational Safety and Health Administration and EPA requirements including, but not limited to, 29 C.F.R. § 1910.20.

d. Upon receipt of EPA approval of the Groundwater Remedial Design Report, Settling Defendants shall implement the activities required by the Groundwater Extraction/Treatment/Reinjection Construction Work Plan.

e. Upon receipt of EPA approval of the Soil Remedial Design Report, Settling Defendants shall implement the activities required by the Soil Remediation Construction Work Plan.

16. Performance Standards

The Work performed by the Settling Defendants pursuant to this Consent Decree shall include the obligation to achieve the Performance Standards.

17. No Warranty

Settling Defendants acknowledge and agree that nothing in this Consent Decree, the SOW, or the deliverables constitutes a warranty or representation of any kind by Plaintiff that compliance with the work requirements set forth in the SOW and

the deliverables will achieve the Performance Standards.

Settling Defendants' compliance with the work requirements shall not foreclose Plaintiff from seeking compliance with all terms and conditions of this Consent Decree, including, but not limited to, the applicable Performance Standards.

18. Right to Submit Comments

Except as provided in Paragraph 78 (Formal Dispute Resolution for Response Action Issues), Settling Defendants reserve their right to submit comments pursuant to section 300.825(c) of the NCP, and have not waived the rights, if any, that they may have under CERCLA and the NCP to petition EPA to amend the ROD based on new information which may substantially support the need to significantly alter the response action.

19. Performance Standards Verification

The Settling Defendants shall submit to EPA and ADEQ and, after review and approval by EPA, shall implement Performance Standards Verification Plans for soil and groundwater. The contents of the Performance Standards Verification Plans and the schedule for their submittal and implementation, are set forth in or will be developed as described in the SOW.

20. Operation and Maintenance

The Settling Defendants shall submit to EPA and ADEQ and, after review and approval by EPA, shall implement an Operations and Maintenance Manual--Soil Venting ("SV O&M Manual") and, if required by EPA, Revisions to the Groundwater Pilot Study Operations & Maintenance Manual ("Revisions to the O&M Manual"). If EPA does not require Revisions to the Groundwater Pilot Study Operations & Maintenance Manual, Settling Defendants shall continue to implement the Groundwater Pilot Study Operations &

Maintenance Manual which was developed under the Order. The contents of the SV O&M Manual and the Revisions to the O&M Manual and the schedule for their submittal and implementation, are set forth in or will be developed as described in the SOW. Unless otherwise authorized by EPA, Settling Defendants shall not commence Operation and Maintenance activities at the Site prior to approval under the Order or this Consent Decree of the O&M Manual or Revisions to the O&M Manual relevant to those activities.

21. Notice of Out-of-State Shipments

a. Settling Defendants shall, prior to any off-Site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification to the appropriate state environmental official in the receiving facility's state and to the EPA Project Coordinator of such shipment of Waste Material. However, this notification requirement shall not apply to any off-Site shipments when the total volume of all such shipments will not exceed 10 cubic yards.

b. The Settling Defendants shall include in the written notification the following information, where available: (1) the name and location of the facility to which the Waste Material is to be shipped; (2) the type and quantity of the Waste Material to be shipped; (3) the expected schedule for the shipment of the Waste Material; and (4) the method of transportation. The Settling Defendants shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a

facility in another state.

c. The identity of the receiving facility and state, if any, will be determined by the Settling Defendants prior to shipment. The Settling Defendants shall provide the information required by Subparagraph 21.b as soon as practicable and before the Waste Material is actually shipped.

VII. ADDITIONAL RESPONSE ACTIONS

22. Notification

In the event that EPA determines or the Settling Defendants propose that additional response actions are necessary to meet the Performance Standards or to carry out the remedy selected in the ROD, notification of such additional response actions shall be provided to the other Project Coordinator.

23. Additional Response Action Work Plan

Within thirty (30) days of receipt of notice from EPA or Settling Defendants pursuant to Paragraph 22 that additional response actions are necessary (or such longer time as may be specified by EPA), Settling Defendants shall submit for approval by EPA, after reasonable opportunity for review and comment by the State, a work plan for the additional response actions. The plan shall conform to the applicable requirements of Paragraphs 14 and 15. Upon approval of the plan pursuant to Section XII (Submissions Requiring Agency Approval), Settling Defendants shall implement the plan for additional response actions in accordance with the schedule contained therein. If required by sections 113(k)(2) or 117 of CERCLA, the Settling Defendants and the public will be provided with an opportunity to comment on any additional response actions proposed by EPA and to submit written comments for the record during the public comment period.

24. Completion of Additional Response Action

Any additional response actions that Settling Defendants propose are necessary to meet the Performance Standards or to carry out the remedy selected in the ROD shall be subject to approval by EPA, after reasonable opportunity for review and comment by the State, and, if authorized by EPA, shall be completed by Settling Defendants in accordance with plans, specifications, and schedules approved or established by EPA pursuant to Section XII (Submissions Requiring Agency Approval).

25. Dispute Resolution Relating to Additional Response Actions

Settling Defendants may invoke the procedures set forth in Section XX (Dispute Resolution) to dispute EPA's determination that additional response actions are necessary to meet the Performance Standards or to carry out the remedy selected in the ROD. Such a dispute shall be resolved pursuant to Paragraphs 75, 76, 77, 78 and 80 of this Consent Decree.

VIII. EPA PERIODIC REVIEW

26. Studies and Investigations

Settling Defendants shall conduct the requisite studies and investigations as determined necessary by EPA in order to permit EPA to conduct reviews at least every five years as required by section 121(c) of CERCLA and any applicable regulations.

27. Comments

If required by sections 113(k)(2) or 117 of CERCLA, Settling Defendants and the public will be provided with an opportunity to comment on any further response actions proposed by EPA as a result of the review conducted pursuant to section 121(c) of CERCLA and to submit written comments for the record during the

public comment period. After the period for submission of written comments is closed, the Regional Administrator, EPA Region IX, or his/her delegate will determine in writing whether further response actions are appropriate.

28. Further Response Action

If the Regional Administrator, EPA Region IX, or his/her delegate determines that information received, in whole or in part, during the review conducted pursuant to section 121(c) of CERCLA, indicates that the Remedial Action is not protective of human health and the environment, the Settling Defendants shall undertake any further response actions EPA has determined are appropriate, unless their liability for such further response actions is barred by the Covenant Not to Sue set forth in Section XXII. Settling Defendants shall submit a plan for such work to EPA for approval in accordance with the procedures set forth in Section VI (Performance of the Work by Settling Defendants) and shall implement the plan approved by EPA. The Settling Defendants may invoke the procedures set forth in Section XX (Dispute Resolution) to dispute (1) EPA's determination that the Remedial Action is not protective of human health and the environment, (2) EPA's selection of the further response actions ordered as arbitrary and capricious, inconsistent with the NCP, or otherwise not in accordance with law, or (3) EPA's determination that the Settling Defendants' liability for the further response actions requested is reserved in Paragraphs 98, 99, or 101 otherwise not barred by the Covenant Not to Sue set forth in Section XXII.

29. Extension of Other Obligations

EPA shall determine whether any further response action

required by EPA under this Section requires the extension of any schedules or deadlines for other obligations of Settling Defendants under this Consent Decree, and shall extend such schedules or deadlines for such time as EPA determines to be necessary to complete those obligations.

IX. QUALITY ASSURANCE, SAMPLING, and DATA ANALYSIS

30. Quality Assurance and Control

Settling Defendants shall use quality assurance, quality control, and chain of custody procedures for all treatability, design, compliance and monitoring samples in accordance with the portions of the following policies that are applicable to sampling and analysis activities performed by persons other than EPA: EPA's "Interim Guidelines and Specifications For Preparing Quality Assurance Project Plans," December 1980, (QAMS-005/80); "Data Quality Objective Guidance," (EPA/540/G87/003 and 004); "EPA NEIC Policies and Procedures Manual," May 1978, revised August 1991, (EPA 330/9-78-001-R); U.S. EPA Region IX's "Guidance for Preparing a Quality Assurance Project Plan for Superfund Remedial Projects," (9-QA-03-89, Sept. 1989); and subsequent amendments to such guidelines upon notification by EPA to Settling Defendants of such amendment. Amended guidelines shall apply only to procedures conducted after such notification. Prior to the commencement of any monitoring project under this Consent Decree, Settling Defendants shall submit to EPA for approval, after a reasonable opportunity for review and comment by the State, a Quality Assurance Project Plan ("QAPP") that is consistent with the SOW, the NCP and the guidance documents listed above. If the QAPP submitted under the Order has been approved by EPA, it shall constitute the QAPP for remedial design

activities under this Consent Decree. If relevant to the proceeding, the Parties agree that validated sampling data generated in accordance with the QAPP(s) and reviewed and approved by EPA shall be admissible as evidence, without objection, in any proceeding under this Consent Decree. Settling Defendants shall ensure that EPA personnel and its authorized representatives are allowed access at reasonable times to all laboratories utilized by Settling Defendants in implementing this Consent Decree. In addition, Settling Defendants shall ensure that such laboratories shall analyze all samples submitted by EPA pursuant to the QAPP for quality assurance monitoring. Settling Defendants shall ensure that the laboratories they utilize for the analysis of samples taken pursuant to this Consent Decree perform all analyses according to accepted EPA methods. Accepted EPA methods include those methods which are documented in the "Contract Lab Program Statement of Work for Inorganic Analysis" and the "Contract Lab Program Statement of Work for Organic Analysis," dated February 1988, and any amendments made thereto during the course of the implementation of this Consent Decree. Settling Defendants shall ensure that all laboratories they use for analysis of samples taken pursuant to this Consent Decree participate in an EPA or EPA-equivalent quality assurance/quality control program, if such program exists.

31. Sampling

Upon request, the Settling Defendants shall allow split or duplicate samples to be taken by EPA or its authorized representatives. Settling Defendants shall notify EPA not less than ten (10) working days in advance of any sample collection activity unless shorter notice is agreed to by EPA. In addition,

EPA shall have the right to take any additional samples that EPA deems necessary, and shall provide copies of results to Settling Defendants. Upon request, which may be made at any time after the Date of Lodging, EPA shall allow the Settling Defendants to take split or duplicate samples of any samples it takes as part of the Plaintiff's oversight of the Settling Defendant's implementation of the Work.

32. Data

Settling Defendants shall submit three copies to EPA and two copies to ADEQ of the results of all sampling and/or tests or other data obtained or generated by or on behalf of a Settling Defendant or Settling Defendants with respect to the Site and/or the implementation of this Consent Decree unless EPA agrees otherwise.

33. Retention of Information Gathering Rights

Notwithstanding any provision of this Consent Decree, Plaintiff hereby retains all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA and any other applicable statutes or regulations.

X. ACCESS

34. Access to Property Owned by Defendants

Commencing upon the Date of Lodging of this Consent Decree, the Defendants agree to provide EPA and its representatives, including EPA's contractors, access at all reasonable times to the Site and any other property to which access is required for the implementation of this Consent Decree, to the extent access to the property is controlled by the Defendants, for the purposes of conducting any activity related to this Consent Decree

including, but not limited to:

- a. Monitoring the Work;
- b. Verifying any data or information submitted to the Plaintiff;
- c. Conducting investigations relating to contamination at or near the Site;
- d. Obtaining samples;
- e. Assessing the need for, planning, or implementing additional response actions at or near the Site;
- f. Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Settling Defendants or their agents, consistent with Section XXV (Access to Information); and
- g. Assessing Settling Defendants' compliance with this Consent Decree.

35. Access to Property Owned by Others

To the extent that the Site or any other property to which access is required for the implementation of this Consent Decree is owned or controlled by persons other than Settling Defendants, Settling Defendants shall use their best efforts to secure from such persons access for Settling Defendants, as well as for EPA and its representatives, including, but not limited to, its contractors, as necessary to effectuate this Consent Decree. For purposes of this Paragraph "best efforts" includes the payment of reasonable sums of money in consideration of access. If any access required to complete the Work is not obtained within forty-five (45) days of the Date of Lodging of this Consent Decree, or within forty-five (45) days of the date EPA notifies the Settling Defendants in writing that additional access beyond

that previously secured is necessary, Settling Defendants shall promptly notify EPA, and shall include in that notification a summary of the steps Settling Defendants have taken to attempt to obtain access. Plaintiff may, as it deems appropriate, assist Settling Defendants in obtaining access. Settling Defendants shall reimburse EPA, in accordance with the procedures in Section XVII (Reimbursement and Payment of Response Costs), for all costs incurred by the United States other than the Settling Federal Agencies in obtaining access.

36. Retention of Rights Relating to Access

Notwithstanding any provision of this Consent Decree, the United States retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA and any other applicable statute or regulations.

XI. REPORTING REQUIREMENTS

37. Periodic Progress Reports

a. In addition to any other requirement of this Consent Decree, Settling Defendants shall submit two (2) copies to ADEQ and three (3) copies to EPA, or such other number of copies authorized by EPA, of written periodic progress reports that: (1) describe the actions which have been taken toward achieving compliance with this Consent Decree during the previous reporting period; (2) include a summary of sampling and tests performed by Settling Defendants or their contractors or agents in the previous reporting period; (3) include all validated data received or generated by Settling Defendants or their contractors or agents in the previous reporting period; (4) identify all work plans, plans and other deliverables required by this Consent Decree completed and submitted during the previous reporting

period; (5) describe all actions, including, but not limited to, data collection and implementation of work plans, which are scheduled for the next one and one-half reporting periods and provide other information relating to the progress of construction, including, but not limited to, critical path diagrams, Gantt charts and Pert charts; (6) include information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule for implementation of the Work, and a description of efforts made to mitigate those delays or anticipated delays; (7) include a description of any modifications to the work plans or other schedules that Settling Defendants have proposed to EPA or that have been approved by EPA; and (8) describe all activities undertaken in support of the Community Relations Plan during the previous reporting period and those to be undertaken in the next one and one-half reporting periods.

b. Settling Defendants shall submit the progress reports required by this Paragraph to EPA by the fifteenth day of every month following the Date of Lodging of this Consent Decree until EPA approval of the Remedial Action Report; then on the fifteenth day of every quarter until one year after EPA notifies the Settling Defendants pursuant to Subparagraph 55.b of Section XV (Certification of Completion); then on the thirtieth day of every six month period until EPA notifies the Settling Defendants pursuant to Paragraph 56 of Section XV (Certification of Completion); or on such other schedule as EPA determines. If requested by EPA, Settling Defendants shall also provide briefings for EPA to discuss the progress of the Work.

38. Schedule Changes

The Settling Defendants shall notify EPA of any change in the schedule described in the periodic progress report for the performance of any activity, including, but not limited to, data collection and implementation of work plans, no later than seven (7) days prior to the scheduled or actual performance of the activity, whichever is earlier.

39. Verbal Reports

Upon the occurrence of any event during performance of the Work that Settling Defendants are required to report pursuant to section 103 of CERCLA or section 304 of the Emergency Planning and Community Right-to-know Act (EPCRA), 42 U.S.C. §11004, Settling Defendants shall within 24 hours of discovery of such event orally notify the EPA Project Coordinator or the Alternate EPA Project Coordinator (in the event of the unavailability of the EPA Project Coordinator), or, in the event that neither the EPA Project Coordinator or Alternate EPA Project Coordinator is available, the Emergency Response Section, Region IX, United States Environmental Protection Agency. These reporting requirements are in addition to the reporting required by CERCLA section 103 and EPCRA section 304.

40. Written Reports

Within twenty (20) days of the discovery of an event requiring notice under Paragraph 39, Settling Defendants shall furnish to EPA a written report, signed by the Settling Defendant's Project Coordinator, setting forth the events which occurred and the measures taken, and to be taken, in response thereto. Within thirty (30) days after the conclusion of all measures taken in response to the event, Settling Defendants

shall submit a report setting forth all such response measures.

41. Copies of Submittals

Settling Defendants shall submit two (2) copies to ADEQ and three (3) copies to EPA, or such other number of copies authorized by EPA, of all plans, reports, documents, and data required by the SOW, the Remedial Design Work Plan, or any other approved plans to EPA in accordance with the schedules set forth in such plans.

42. Signature of Submittals

All plans, reports and other documents submitted by Settling Defendants to EPA (other than the periodic progress reports referred to above) which are intended to document Settling Defendants' compliance with the terms of this Consent Decree shall be signed by an authorized representative of the Settling Defendants.

XII. SUBMISSIONS REQUIRING AGENCY APPROVAL

43. EPA Approval or Disapproval

After review of any plan, report or other item which is required to be submitted for approval pursuant to this Consent Decree, EPA, after reasonable opportunity for review and comment by the State, shall, in writing, either: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions after consulting with Settling Defendants; (c) modify the submission to cure the deficiencies after consulting with Settling Defendants and reaching consensus with them regarding the modifications, and approve the modified submission; (d) disapprove, in whole or in part, the submission and require its modification and resubmission to EPA; or (e) any combination of the above.

44. Approval of Submission

In the event of approval, approval upon conditions, or modification by EPA, pursuant to Subparagraph 43(a), (b), or (c), Settling Defendants shall proceed to take any action required by the plan, report, or other item, as approved or modified by EPA subject only to their right to invoke the Dispute Resolution procedures set forth in Section XX (Dispute Resolution) with respect to the modifications or conditions made by EPA. In the event that EPA modifies the submission to cure the deficiencies pursuant to Subparagraph 43(c) and the submission has a material defect, EPA retains its right to seek stipulated penalties, as provided in Section XXI.

45. If EPA approves upon conditions pursuant to Subparagraph 43(b), EPA shall specify the deficiencies it has determined exist in the submittal, and, if required by EPA, Settling Defendants shall, within fourteen (14) days or such other time as specified by EPA in such notice, meet such conditions and resubmit the plan, report, or other item.

46. Disapproval of Initial Submission

a. For any disapproval pursuant to Subparagraph 43(d), EPA shall specify the deficiencies it has determined exist in the submittal. Upon receipt of a notice of disapproval pursuant to Subparagraph 43(d), Settling Defendants shall, within fourteen (14) days or such other time specified below or in EPA's notice, correct the deficiencies and resubmit the plan, report, or other item for approval. Unless EPA specifies otherwise in its notice, Settling Defendants shall be allowed thirty (30) days to correct and resubmit the: Soil Remedial Design Criteria Technical Memo; Revisions to the Groundwater Pilot Study O&M

Manual Technical Proposal (if required by EPA); Hydraulic Containment Evaluation Report; and Groundwater Remedial Design Criteria Technical Memo (if required by EPA). Unless EPA specifies otherwise in its notice, Settling Defendants shall be allowed forty-five (45) days to correct and resubmit the: Soil Remedial Design Report; O&M Manual -- Soil Venting; Remedial Design Work Plan; Remedial Action Report; Construction Inspection Report -- Soil Remediation; Construction Inspection Report -- Groundwater Remediation; Performance Standards Verification Plans; and the Groundwater Remedial Design Report (if required by EPA). Any stipulated penalties applicable to the submission, as provided in Section XXI, shall accrue during the period between disapproval and resubmittal but shall not be payable unless the resubmission is disapproved or modified due to a material defect as provided in Paragraph 48.

b. Notwithstanding the receipt of a notice of disapproval pursuant to Subparagraph 43(d), Settling Defendants shall proceed, at the direction of EPA, to take any action required by any non-deficient portion of the submission. Implementation of any non-deficient portion of a submission shall not relieve Settling Defendants of any liability for stipulated penalties under Section XXI (Stipulated Penalties).

47. Disapproval of Resubmittal

In the event that a resubmitted plan, report or other item, or portion thereof, is disapproved by EPA, EPA may again require the Settling Defendants to correct the deficiencies within fourteen (14) days, in accordance with the preceding Paragraphs. EPA also retains the right to amend or develop the plan, report or other item. Settling Defendants shall implement any such

plan, report, or item as amended or developed by EPA, subject only to their right to invoke the procedures set forth in Section XX (Dispute Resolution).

48. Consequences of Disapproval of Resubmittal

If upon resubmission, a plan, report, or item is disapproved or modified by EPA due to a material defect, Settling Defendants shall be deemed to have failed to submit such plan, report, or item timely and adequately unless the Settling Defendants invoke the dispute resolution procedures set forth in Section XX (Dispute Resolution) and EPA's action is overturned pursuant to that Section. The provisions of Section XX (Dispute Resolution) and Section XXI (Stipulated Penalties) shall govern the implementation of the Work and accrual and payment of any stipulated penalties during Dispute Resolution. If EPA's disapproval or modification is upheld, stipulated penalties shall accrue for such violation from the date on which the initial submission was originally required, as provided in Section XXI.

49. Integration

To the extent not inconsistent with this Consent Decree, the ROD, and the SOW, all plans, reports, schedules, and other documents required to be submitted to EPA under this Consent Decree shall, upon approval or modification by EPA, be incorporated into and enforceable under this Consent Decree. In the event EPA approves or modifies a portion of a plan, report, or other item required to be submitted to EPA under this Consent Decree, the approved or modified portion shall be enforceable under this Consent Decree.

XIII. PROJECT COORDINATORS

50. Designation of Project Coordinators

Within twenty (20) days after the Date of Lodging of this Consent Decree, Settling Defendants and EPA shall notify each other, in writing, of the name, address and telephone number of their respective designated Project Coordinators and Alternate Project Coordinators. If a Project Coordinator or Alternate Project Coordinator initially designated is changed, the identity of the successor will be given to the other parties at least five (5) working days before the changes occur, unless impracticable, but in no event later than the actual day the change is made. The Settling Defendants' Project Coordinator shall be subject to disapproval by EPA and shall have the technical expertise sufficient to adequately oversee all aspects of the Work. The Settling Defendants' Project Coordinator shall not be an attorney for any of the Settling Defendants in this matter. He or she may assign other representatives, including other contractors, to serve as a Site representative for oversight of performance of daily operations during remedial activities.

51. Other Representatives of the Plaintiff

EPA may designate other representatives, including, but not limited to, EPA employees, and federal contractors and consultants, to observe and monitor the progress of any activity undertaken pursuant to this Consent Decree. EPA's Project Coordinator and Alternate Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager (RPM) and an On-Scene Coordinator (OSC) by the National Contingency Plan, 40 C.F.R. Part 300. In addition, EPA's Project Coordinator or Alternate Project Coordinator shall have authority, consistent

with the National Contingency Plan, to halt any Work required by this Consent Decree and to take any necessary response action when s/he determines that conditions at the Site constitute an emergency situation or may present an immediate threat to public health or welfare or the environment due to release or threatened release of Waste Material.

52. Periodic Meetings

a. EPA's Project Coordinator and the Settling Defendants' Project Coordinator shall meet, at a minimum, on a monthly basis until EPA approval of the Remedial Action Report; then quarterly until one year after EPA notifies the Settling Defendants pursuant to Subparagraph 55.b of Section XV (Certification of Completion); then every six months until EPA notifies the Settling Defendants pursuant to Paragraph 56 of Section XV (Certification of Completion); or on such other schedule as EPA determines. Such meetings may be held by telephone.

b. A Hassayampa Technical Work Group shall be created and shall consist of representatives designated by Settling Defendants and EPA. Meetings may occur by conference call and shall be held periodically for the purpose of fostering discussions on technical matters and EPA comments that may arise during the conduct of the Work and to resolve differences of opinion between the parties to this Consent Decree. In addition to discussing technical aspects of the Work, topics may include anticipated problems or new issues.

XIV. ASSURANCE OF ABILITY TO COMPLETE WORK

53. Financial Assurance

Within thirty (30) days after the Date of Entry of this

Consent Decree, Settling Defendants shall establish and maintain financial security in the amount of \$3 million in one of the following forms: (a) a surety bond guaranteeing performance of the Work; (b) one or more irrevocable letters of credit equalling the total estimated cost of the Work; (c) a trust fund; (d) a guarantee to perform the Work by one or more parent corporations or subsidiaries, or by one or more unrelated corporations that have a substantial business relationship with at least one of the Settling Defendants; or (e) documents submitted to EPA sufficient to demonstrate that one or more of the Settling Defendants satisfy the requirements of 40 C.F.R. Part 264.143(f).

54. Demonstration of Financial Ability

If the Settling Defendants seek to demonstrate the ability to complete the Work through a guarantee by a third party pursuant to Subparagraph 53(d) of this Consent Decree, Settling Defendants shall demonstrate that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f). If Settling Defendants seek to demonstrate their ability to complete the Work by means of the financial test or the corporate guarantee pursuant to Subparagraph 53(d) or 53(e), they shall resubmit sworn statements conveying the information required by 40 C.F.R. Part 264.143(f) annually, on the anniversary of the effective date of this Consent Decree, until issuance by EPA of the Certification of Completion of the Remedial Action under Paragraph 55, and biannually thereafter. In the event that EPA, after a reasonable opportunity for review and comment by the State, determines at any time that the financial assurances provided pursuant to this Section are inadequate, Settling Defendants shall, within thirty (30) days of receipt of notice of

EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 53 of this Consent Decree. Settling Defendants' inability to demonstrate financial ability to complete the Work shall not excuse performance of any activities required under this Consent Decree.

XV. CERTIFICATION OF COMPLETION

55. Completion of the Remedial Action

a. Within ninety (90) days after Settling Defendants conclude that the Remedial Action has been fully performed and the Performance Standards have been attained, Settling Defendants shall schedule and conduct a pre-certification inspection to be attended by Settling Defendants, EPA and the State. If, after the pre-certification inspection, the Settling Defendants still believe that the Remedial Action has been fully performed and the Performance Standards have been attained, they shall submit a written report requesting certification to EPA for approval, with a copy to the ADEQ, pursuant to Section XII (Submissions Requiring Agency Approval) within thirty (30) days of the inspection. In the report, a registered professional engineer and the Settling Defendants' Project Coordinator shall state that the Remedial Action has been completed in full satisfaction of the requirements of this Consent Decree. The written report shall include as-built drawings signed and stamped by a professional engineer. The report shall contain the following statement, signed by a responsible corporate official of a Settling Defendant or the Settling Defendants' Project Coordinator:

"To the best of my knowledge, after thorough

investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If, after completion of the pre-certification inspection and receipt and review of the written report, EPA, after reasonable opportunity to review and comment by the State, determines that the Remedial Action or any portion thereof has not been completed in accordance with this Consent Decree or that the Performance Standards have not been achieved, EPA will notify Settling Defendants in writing of the activities that must be undertaken to complete the Remedial Action and achieve the Performance Standards. EPA will set forth in the notice a schedule for performance of such activities consistent with the Consent Decree and the SOW or require the Settling Defendants to submit a schedule to EPA for approval pursuant to Section XII (Submissions Requiring Agency Approval). Settling Defendants shall perform all activities described in the notice in accordance with the specifications and schedules established pursuant to this Paragraph, subject to their right to invoke the dispute resolution procedures set forth in Section XX (Dispute Resolution).

b. If EPA concludes, based on the initial or any subsequent report requesting Certification of Completion and after a reasonable opportunity for review and comment by the State, that the Remedial Action has been fully performed in accordance with this Consent Decree and that the Performance Standards have been achieved, EPA will so certify in writing to Settling Defendants. This certification shall constitute the

Certification of Completion of the Remedial Action for purposes of this Consent Decree, including, but not limited to, Section XXII (Covenants Not to Sue by Plaintiff). Certification of Completion of the Remedial Action shall not affect Settling Defendants' obligations under this Consent Decree.

56. Completion of the Work

a. Within ninety (90) days after Settling Defendants conclude that all phases of the Work (including O & M), have been fully performed, Settling Defendants shall schedule and conduct a pre-certification inspection to be attended by Settling Defendants, EPA and the State. If, after the pre-certification inspection, the Settling Defendants still believe that the Work has been fully performed, Settling Defendants shall submit a written report by a registered professional engineer stating that the Work has been completed in full satisfaction of the requirements of this Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of a Settling Defendant or the Settling Defendants' Project Coordinator:

"To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If, after review of the written report, EPA, after reasonable opportunity to review and comment by the State, determines that any portion of the Work has not been completed in accordance with this Consent Decree, EPA will notify Settling Defendants in writing of the activities that must be undertaken to complete the Work. EPA will set forth in the notice a schedule for

performance of such activities consistent with the Consent Decree and the SOW or require the Settling Defendants to submit a schedule to EPA for approval pursuant to Section XII (Submissions Requiring Agency Approval). Settling Defendants shall perform all activities described in the notice in accordance with the specifications and schedules established therein, subject to their right to invoke the dispute resolution procedures set forth in Section XX (Dispute Resolution).

b. If EPA concludes, based on the initial or any subsequent request for Certification of Completion by Settling Defendants and after a reasonable opportunity for review and comment by the State, that the Work has been fully performed in accordance with this Consent Decree, EPA will so notify the Settling Defendants in writing.

XVI. EMERGENCY RESPONSE

57. Release or Threat of Release

In the event of any action or occurrence during the performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Settling Defendants shall, subject to Paragraph 58, immediately upon discovery take all appropriate action to prevent, abate, or minimize such release or threat of release, and shall immediately notify the EPA's Project Coordinator, or, if the Project Coordinator is unavailable, EPA's Alternate Project Coordinator. If neither of these persons is available, the Settling Defendants shall notify the EPA Emergency Response Unit, Region IX. Settling Defendants shall take such actions in consultation with EPA's Project Coordinator or other

available authorized EPA officer and in accordance with all applicable provisions of the Health and Safety Plans, the Contingency Plans, and any other applicable plans or documents developed pursuant to the SOW. Settling Defendants also shall notify the ADEQ Emergency Response Unit. To the extent feasible given the circumstances of the emergency, EPA shall communicate with ADEQ regarding the response action and coordinate with local emergency authorities. In the event that Settling Defendants fail to take appropriate response action as required by this Section, and EPA takes such action instead, Settling Defendants shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XVII (Reimbursement and Payment of Response Costs).

58. No Limitation on Authority

Nothing in the preceding Paragraph or in this Consent Decree shall be deemed to limit any authority of the United States to take, direct, or order all appropriate action or to seek an order from the Court to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Site.

XVII. REIMBURSEMENT AND PAYMENT OF RESPONSE COSTS

59. Settling Defendants' Payment of Past Response Costs

Within thirty (30) days after the effective date of this Consent Decree, Settling Defendants shall pay to the Plaintiff the sum of \$37,076.13 in reimbursement of Past Response Costs, by one Electronic Funds Transfer ("EFT") to the U.S. Department of Justice Lockbox bank, referencing the "Hassayampa Landfill Superfund Site, SSID #09B8" and DOJ Case Number 90-11-2-841. Payment shall be made in accordance with instructions provided by

the Financial Management Unit of the U.S. Attorney's Office in the district in which the Consent Decree will be entered, to the Settling Defendants upon execution of the Consent Decree. Any EFTs received at the DOJ lockbox bank after 11:00 A.M. Eastern Time will be credited on the next business day. At the time of payment, Settling Defendants shall simultaneously send written notice of payment and a copy of any transmittal documentation to the United States and EPA in accordance with Section XXVII (Notices and Submissions).

60. Disputed State Oversight Costs

a. The amount specified for Settling Defendants to pay under the preceding Paragraph 59 does not include certain costs incurred by EPA under a series of Multi-Site Cooperative Agreements with the State (collectively referred to herein as "MSCA"). Under the MSCA, the State has performed oversight of work done by HSC under the ACO for the RI/FS at the Site. Costs charged by the State to EPA for the Site under the MSCA, whether past or future, will be collectively referred to herein as "MSCA Costs."

b. Under the ACO, HSC agreed to pay certain response costs incurred by EPA for the Site, including oversight by EPA contractors. By letter dated February 4, 1993, HSC invoked the dispute resolution provisions under the ACO with regard to certain MSCA Costs billed to HSC under the ACO, on the ground that MSCA Costs may have been inadvertently used to pay costs incurred by the State in the pending litigation between HSC members and the State (Alcatel Information Systems, et al. v. State of Arizona, et al., CIV-89-0188-PHX-RCB). EPA has temporarily credited the disputed MSCA Costs against the Past

Response Costs payable under Paragraph 59, while EPA investigates HSC's allegations. HSC has withdrawn its invocation of dispute resolution, without prejudice to renew it after EPA completes its investigation. Additional MSCA Costs may be charged to the Site as Future Response Costs. EPA will also defer billing Settling Defendants for such MSCA Costs as Future Response Costs under Paragraph 64 during EPA's investigation.

c. When EPA completes its investigation of the MSCA Costs, EPA shall issue a letter to Settling Defendants describing its findings, and summarizing and demanding payment of the MSCA Costs which EPA has determined were and were not properly chargeable by the State under the MSCA. Within sixty (60) days after Settling Defendants' receipt of EPA's letter, Settling Defendants shall either: pay the MSCA Costs which EPA has determined were properly charged by the State, in the manner described in Paragraph 59; or invoke dispute resolution under Paragraph 66 and Section XX (Dispute Resolution) of this Consent Decree. Disputes of these MSCA Costs shall be limited to allegations that EPA has made an accounting error or that a cost item represents costs that are inconsistent with the NCP.

61. Historic Costs

a. The amount specified for Settling Defendants to pay under Paragraph 59 does not include certain costs incurred by EPA for contractor support at the Site prior to approximately 1986 ("Historic Costs"). EPA has temporarily removed the Historic Costs from the amount of the Past Response Costs payable under Paragraph 59, while EPA confirms the Historic Costs and prepares a Superfund cost summary ("SCORES Summary").

b. When EPA confirms the Historic Costs and completes

the SCORES Summary for the Historic Costs, EPA shall send the SCORES Summary to Settling Defendants with a demand for payment of the Historic Costs. Within sixty (60) days after Settling Defendants' receipt of EPA's demand, Settling Defendants shall either: pay the Historic Costs demanded, in the manner described in Paragraph 59; or invoke dispute resolution under Paragraph 66 and Section XX (Dispute Resolution) of this Consent Decree. Disputes of these Historic Costs shall be limited to allegations that EPA has made an accounting error or that a cost item represents costs that are inconsistent with the NCP.

62. De Minimis Settling Defendants' Payments

On or before thirty (30) days of the Date of Lodging of this Consent Decree, each De Minimis Settling Defendant shall make a cash payment to one or more Settling Defendants in contribution toward the Settling Defendants' payment of Past and Future Response Costs and for performance of the Work. De Minimis Settling Defendants' names and volumes are set forth in Appendix F to this Consent Decree, together with a formula used to determine the payment schedule generally applicable to the De Minimis Settling Defendants. Within forty-five (45) days after the Date of Lodging, Settling Defendants shall provide EPA with a list of all De Minimis Settling Defendants which have made the payments required under this Paragraph.

63. Payments on Behalf of Settling Federal Agencies

a. Within six months after the effective date of this Consent Decree, the United States (other than EPA) shall resolve the alleged liability of the Settling Federal Agencies for response costs incurred or to be incurred by the Settling Defendants in carrying out response actions required by this

Consent Decree and for Past and Future Response Costs incurred or to be incurred by EPA, by payment to one or more of the Settling Defendants as provided in Appendix G.

b. As acknowledged by EPA and the Parties, the payment obligation imposed on the Settling Federal Agencies by this Consent Decree may require a Settling Federal Agency to seek appropriations from Congress to fund its payments. No provision of this Consent Decree shall be interpreted as or constitute a commitment or requirement that any Settling Federal Agency obligate or pay funds in contravention of the Anti-Deficiency Act, 31 U.S.C. § 1341.

c. Nothing in Paragraphs 68, 69, or 107 shall be construed as obviating the Settling Federal Agencies' payment obligation under this Paragraph 63.

d. Settling Defendants shall send a copy of any check(s) received from the Settling Federal Agencies to EPA as specified in Section XXVII (Notices and Submissions).

64. Settling Defendants' Payment of Future Response Costs

a. Settling Defendants shall reimburse Plaintiff for all Future Response Costs not inconsistent with the National Contingency Plan. Settling Defendants shall prepay a portion of the Future Response Costs at the Site by making four semi-annual payments of \$70,000.00 each to EPA, commencing with an initial payment 30 days subsequent to the Date of Lodging of this Consent Decree followed by additional payments 6 months, 12 months and 18 months after the Date of Lodging of this Consent Decree. Each \$70,000.00 payment shall be in the form of a check made payable to "EPA Hazardous Substance Superfund," and shall reference "Hassayampa Landfill Superfund Site, SSID #09B8" and DOJ Case

Number 90-11-2-841. A transmittal letter shall accompany each check and shall state that the proceeds of the check are to be credited to the "Hassayampa Landfill Special Account." Each check and transmittal letter shall be forwarded to:

U.S. Environmental Protection Agency, Region IX
ATTENTION: Superfund Accounting
P. O. Box 360863M
Pittsburgh, PA 15251

Settling Defendants shall send copies of their check(s) to the United States and EPA as specified in Section XXVII (Notices and Submissions).

b. No more frequently than annually, EPA shall send the Settling Defendants a copy of the EPA Superfund cost summary documentation ("SCORES Summary") of the Future Response Costs incurred at the Site, which includes direct and indirect costs incurred by EPA, DOJ and their contractors. Included with the SCORES Summary will be a statement of the current balance of the Hassayampa Landfill Special Account ("Special Account") and a summary of the Future Response Costs that have been paid from Special Account funds. Transmittal of this statement shall constitute a demand for payment of those Future Response Costs that have been incurred at the Site but that have not been paid by funds from the Special Account. Settling Defendants shall pay EPA's demand within sixty (60) days of Settling Defendants' receipt of the demand, except as otherwise provided in Paragraph 66. Settling Defendants shall pay the amount demanded in the form of a check or checks made payable to "EPA Hazardous Substance Superfund," and referencing "Hassayampa Landfill Superfund Site, SSID #09B8" and DOJ Case Number 90-11-2-841. The Settling Defendants shall forward the check(s) with a copy of

EPA's demand to:

U.S. Environmental Protection Agency, Region IX
ATTENTION: Superfund Accounting
P. O. Box 360863M
Pittsburgh, PA 15251

Settling Defendants shall send copies of their check(s) to the United States and EPA as specified in Section XXVII (Notices and Submissions).

c. The Settling Defendants' obligation to make payment to Plaintiff in accordance with Paragraphs 59, 60, 61, 64, 65, 66, and 67 shall be irrespective of the failure of Settling Defendants and/or Settling Federal Agencies to pay any portion of the payments to Settling Defendants required by Paragraphs 62 and 63 respectively.

65. Indirect Cost Rate

Notwithstanding EPA's proposed Cost Recovery Rule (57 Fed. Reg. 34742-34755, August 6, 1992), or any other cost recovery rules proposed by EPA subsequent to the effective date of this Consent Decree, which would, among other things, significantly increase the indirect costs charged by EPA, nevertheless the indirect costs to be paid by Settling Defendants under this Section XVII shall be based upon the indirect cost allocation methodology in effect on January 1, 1993, for both Past Response Costs and Future Response Costs, subject to Paragraph 67 below.

66. Contest of Future Response Costs, MSCA Costs and Historic Costs

Settling Defendants may contest payment of any Future Response Costs under Paragraph 64 (including Future Response Costs paid from the Hassayampa Special Account), any MSCA Costs billed by EPA under Paragraph 60, or any Historic Costs billed by

EPA under Paragraph 61, if they allege that EPA has made an accounting error or if they allege that a cost item that is included represents costs that are inconsistent with the NCP. Such objection shall be made in writing within sixty (60) days of receipt of the bill and must be sent to EPA pursuant to Section XXVII (Notices and Submissions). Any such objection shall specifically identify the contested Future Response Costs, MSCA Costs, or Historic Costs and the basis for objection. In the event of an objection, the Settling Defendants shall within the 60 day period pay all uncontested Future Response Costs in the manner described in Subparagraph 64.b, and all MSCA Costs, or Historic Costs, as applicable, to EPA in the manner described in Paragraph 59. Simultaneously, the Settling Defendants shall establish an interest bearing escrow account in a federally-insured bank duly chartered in the State of Arizona and remit to that escrow account funds equivalent to the amount of the contested costs. The Settling Defendants shall send to EPA, as provided in Section XXVII (Notices and Submissions), a copy of the transmittal letter and check paying the uncontested costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, the Settling Defendants shall initiate the Dispute Resolution procedures in Section XX (Dispute Resolution). If the Plaintiff prevails in the dispute, within fifteen (15) days of the resolution of the dispute, the Settling Defendants shall pay the

sums due (with accrued interest) to the EPA, in the manner described in Subparagraph 64.b for Future Response Costs and in the manner described in Paragraph 59 for MSCA or Historic Costs. If the Settling Defendants prevail concerning any aspect of the contested costs, the Settling Defendants shall pay that portion of the costs (plus associated accrued interest) for which they did not prevail to EPA, in the manner described in Subparagraph 64.b for Future Response Costs and in the manner described in Paragraph 59 for MSCA or Historic Costs; any remaining balance shall be disbursed to the Settling Defendants. If Settling Defendants prevail on a disputed payment paid from the Hassayampa Special Account, EPA will offset that portion of the contested costs paid from the Special Account that the Settling Defendants prevailed on against the Settling Defendants' liability for Future Response Costs. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XX (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding the Settling Defendants' obligation to reimburse EPA for its Future Response Costs, MSCA Costs, and Historic Costs.

67. Effect of Nonpayment by Settling Defendants

In the event that the payment required by Paragraph 59 is not made within thirty (30) days of the effective date of this Consent Decree, or the payments required by Paragraph 60, Paragraph 61, or Paragraph 64 are not made within sixty (60) days of the Settling Defendants' receipt of the bill and are not contested under the provisions of Paragraph 66, Settling Defendants shall pay interest on the unpaid balance at the rate established pursuant to section 107(a) of CERCLA, 42 U.S.C.

§ 9607, and shall pay, at EPA's option, Past Costs and Future Response Costs adjusted to reflect the indirect cost allocation methodology in effect on the date payment was due. If interest is payable on Past Response Costs, it shall begin to accrue on July 31, 1992. If interest is payable on Future Response Costs, it shall begin to accrue on the date of the Settling Defendants' receipt of the bill. If interest is payable on MSCA Costs or Historic Costs, it shall begin to accrue on the date of the Settling Defendants' receipt of the letter from EPA demanding payment of such costs under Paragraph 60 or 61. Interest shall accrue at the rate specified through the date of the Settling Defendants' payment. Payments of interest made under this Paragraph shall be in addition to such other remedies or sanctions available to Plaintiff by virtue of Settling Defendants' failure to make timely payments under this Section.

XVIII. INDEMNIFICATION AND INSURANCE

68. Indemnification

Except as provided in Paragraph 63, the United States does not assume any liability by entering into this agreement or by virtue of any designation of Settling Defendants as EPA's authorized representatives under section 104(e) of CERCLA. Settling Defendants shall indemnify, save and hold harmless the United States and its officials, agents, employees, contractors, subcontractors, or representatives, for or from any and all claims or causes of action arising from, or on account of, acts or omissions of Settling Defendants, their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Consent Decree, including, but not

limited to, any claims arising from any designation of Settling Defendants as EPA's authorized representatives under section 104(e) of CERCLA. Further, the Settling Defendants agree to pay the United States all costs incurred by the United States including, but not limited to, attorneys fees and other expenses of litigation and settlement arising from, or on account of, claims made against the United States based on acts or omissions of Settling Defendants, their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Consent Decree. The United States shall not be held out as a party to any contract entered into by or on behalf of Settling Defendants in carrying out activities pursuant to this Consent Decree. Neither the Settling Defendants nor any such contractor shall be considered an agent of the United States. Nothing in this Consent Decree, however, shall require indemnification with respect to any claims or causes of action the Settling Defendants may have against the United States based on negligent action taken solely and directly by the United States (not including oversight or approval of the Settling Defendants' plans or activities).

69. Waiver

Settling Defendants waive all claims against the United States for damages or reimbursement or for setoff of any payments, made or to be made to the United States arising from or on account of any contract, agreement, or arrangement between any one or more of Settling Defendants and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition,

Settling Defendants shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of Settling Defendants and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. Nothing in this Paragraph 69 shall be construed as waiving the rights Settling Defendants specifically reserve against the Settling Federal Agencies in Paragraph 107, nor shall it be construed as requiring the Settling Defendants to indemnify the Settling Federal Agencies for payments made by the Settling Federal Agencies under Paragraph 63.

70. Insurance

No later than fifteen (15) days before commencing any on-site Work, Settling Defendants shall secure, and shall maintain until the first anniversary of EPA's Certification of Completion of the Work pursuant to Subparagraph 56.b of Section XV (Certification of Completion), comprehensive general liability insurance and automobile insurance with limits of two million dollars, combined single limit including as additional insured the United States. In addition, for the duration of this Consent Decree, Settling Defendants shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Settling Defendants in furtherance of this Consent Decree. Prior to commencement of the Work under this Consent Decree, Settling Defendants shall provide to EPA certificates of such insurance and a copy of each insurance policy. Settling Defendants shall

resubmit such certificates and copies of policies each year on the anniversary of the effective date of this Consent Decree. If Settling Defendants demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Settling Defendants need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor.

XIX. FORCE MAJEURE

71. Definitions

"Force majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of the Settling Defendants or of any entity controlled by Settling Defendants, including, but not limited to, their contractors and subcontractors, that delays or prevents the performance of any obligation under this Consent Decree despite Settling Defendants' best efforts to fulfill the obligation. The requirement that the Settling Defendants exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) following the potential force majeure event, such that the delay is minimized to the greatest extent possible. "Force Majeure" does not include financial inability to complete the Work or a failure to attain the Performance Standards.

72. Notice Required

If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether

or not caused by a force majeure event, the Settling Defendants shall notify orally EPA's Project Coordinator or, in his or her absence, EPA's Alternate Project Coordinator or, in the event both of EPA's designated representatives are unavailable, the Director of the Hazardous Waste Management Division, EPA Region IX, within four (4) days of when Settling Defendants first knew or should have known that the event might cause a delay. Within five (5) days thereafter, Settling Defendants shall provide in writing to EPA and the State an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; the Settling Defendants' rationale for attributing such delay to a force majeure event if they intend to assert such a claim; and a statement as to whether, in the opinion of the Settling Defendants, such event may cause or contribute to an endangerment to public health, welfare or the environment. The Settling Defendants shall include with any notice all available documentation supporting their claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude Settling Defendants from asserting any claim of force majeure for that event. Settling Defendants shall be deemed to have notice of any circumstance of which their contractors or subcontractors had or should have had notice.

73. Extension of Time

If EPA, after a reasonable opportunity for review and comment by the State, agrees that the delay or anticipated delay

is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event shall be extended by EPA, after a reasonable opportunity for review and comment by the State, for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. If EPA, after a reasonable opportunity for review and comment by the State, does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify the Settling Defendants in writing of its decision. If EPA, after a reasonable opportunity for review and comment by the State, agrees that the delay is attributable to a force majeure event, EPA will notify the Settling Defendants in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

74. Dispute Resolution Relating to Force Majeure Issues

If the Settling Defendants elect to invoke the dispute resolution procedures set forth in Section XX (Dispute Resolution), they shall do so no later than fifteen (15) days after receipt of EPA's notice. In any such proceeding, Settling Defendants shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Settling Defendants complied with the requirements of

Paragraphs 71 and 72, above. If Settling Defendants carry this burden, the delay at issue shall be deemed not to be a violation by Settling Defendants of the affected obligation of this Consent Decree identified to EPA and the Court.

XX. DISPUTE RESOLUTION

75. Exclusive Mechanism

Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. However, the procedures set forth in this Section shall not apply to actions by the United States to enforce obligations of the Defendants that have not been disputed in accordance with this Section.

76. Informal Negotiations

Any dispute which arises under or with respect to this Consent Decree shall in the first instance be the subject of informal negotiations between the parties to the dispute. The period for informal negotiations shall not exceed twenty (20) days from the time the dispute arises, unless it is modified by written agreement of the parties to the dispute. The dispute shall be considered to have arisen when one party sends the other parties a written Notice of Dispute specifying the dispute. The parties shall thereafter meet for purposes of discussing and resolving the dispute.

77. Formal Dispute Resolution

a. In the event that the parties cannot resolve a dispute by informal negotiations under the preceding Paragraph, then the position advanced by EPA shall be considered binding unless, within ten (10) days after the conclusion of the informal

negotiation period, Defendants invoke the formal dispute resolution procedures of this Section by serving on Plaintiff a written Statement of Position on the matter in dispute, including, but not limited to, any factual data, analysis or opinion supporting that position and any supporting documentation relied upon by the Defendants. The Statement of Position shall specify the Defendants' position as to whether formal dispute resolution should proceed under Paragraph 78 or 79.

b. Within fourteen (14) days after receipt of Defendants' Statement of Position, EPA will serve on Defendants its Statement of Position, including, but not limited to, any factual data, analysis, or opinion supporting that position and all supporting documentation relied upon by EPA. EPA's Statement of Position shall include a statement as to whether formal dispute resolution should proceed under Paragraph 78 or 79.

c. If there is disagreement between EPA and the Defendants as to whether dispute resolution should proceed under Paragraph 78 or 79, the parties to the dispute shall follow the procedures set forth in the Paragraph determined by EPA to be applicable. However, if the Defendants ultimately appeal to the Court to resolve the dispute, the Court shall determine which Paragraph is applicable in accordance with the standards of applicability set forth in Paragraphs 78 and 79.

78. Formal Dispute Resolution for Response Action Issues

a. Formal dispute resolution for disputes pertaining to the selection or adequacy of any response action and all other disputes that are accorded review on the administrative record under applicable principles of administrative law shall be conducted pursuant to the procedures set forth in this Paragraph.

For purposes of this Paragraph, the adequacy of any response action includes, without limitation: (1) the adequacy or appropriateness of plans, procedures to implement plans, or any other items requiring approval by EPA under this Consent Decree; and (2) the adequacy of the performance of response actions taken pursuant to this Consent Decree. Nothing in this Consent Decree shall be construed to allow any dispute by Defendants regarding the validity of the ROD's provisions.

b. An administrative record of the dispute shall be maintained by EPA and shall contain all statements of position, including supporting documentation, submitted pursuant to this Paragraph. Where appropriate, EPA may allow submission of supplemental statements of position by the parties to the dispute.

c. The Director of the Hazardous Waste Management Division, EPA Region IX, will issue a final administrative decision resolving the dispute based on the administrative record described in Subparagraph 78.b. This decision shall be binding upon the Defendants ~~subject~~ only to the right to seek judicial review pursuant to Subparagraphs 78.d and 78.e.

d. Any administrative decision made by EPA pursuant to Subparagraph 78.c shall be reviewable by this Court, provided that a notice of judicial appeal is filed by the Defendants with the Court and served on all Parties within ten (10) days of receipt of EPA's decision. The notice of judicial appeal shall include a description of the matter in dispute, the efforts made by the parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of this Consent Decree. The

Plaintiff may file a response to Defendants' notice of judicial appeal.

e. In proceedings on any dispute governed by this Paragraph, Defendants shall have the burden of demonstrating that the decision of the Hazardous Waste Management Division Director is arbitrary and capricious or otherwise not in accordance with law. Judicial review of EPA's decision shall be on the administrative record compiled pursuant to Subparagraph 78.b.

79. Formal Dispute Resolution for Other Disputes

Formal dispute resolution for disputes that neither pertain to the selection or adequacy of any response action nor are otherwise accorded review on the administrative record under applicable principles of administrative law, shall be governed by this Paragraph.

a. Following receipt of Defendants' Statement of Position submitted pursuant to Paragraph 77, the Director of the Hazardous Waste Management Division, EPA Region IX, will issue a final decision resolving the dispute. The Hazardous Waste Management Division Director's decision shall be binding on the Defendants unless, within ten (10) days of receipt of the decision, the Defendants file with the Court and serve on the parties a notice of judicial appeal setting forth the matter in dispute, the efforts made by the parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of the Consent Decree. The Plaintiff may file a response to Defendants' notice of judicial appeal.

b. Notwithstanding Paragraph M of Section I (Background) of this Consent Decree, judicial review of any

dispute governed by this Paragraph shall be governed by applicable provisions of law.

80. Continuing Obligations of Defendants

The invocation of formal dispute resolution procedures under this Section shall not extend, postpone or affect in any way any obligation of the Defendants under this Consent Decree not directly in dispute, unless EPA or the Court agrees otherwise. Stipulated penalties with respect to the disputed matter shall continue to accrue but payment shall be stayed pending resolution of the dispute as provided in Paragraph 91. Notwithstanding the stay of payment, stipulated penalties shall accrue from the first day of noncompliance with any applicable provision of this Consent Decree. In the event that the Defendant does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XXI (Stipulated Penalties).

XXI. STIPULATED PENALTIES

81. Failure to Comply

Settling Defendants shall be liable for stipulated penalties in the amounts set forth in Paragraphs 82, 83, 84 and 85 to Plaintiff for failure to comply with the requirements of this Consent Decree specified below, unless excused under Section XIX (Force Majeure). "Compliance" by Settling Defendants shall include completion of the activities under this Consent Decree, any activities incorporated under this Consent Decree under Paragraph 13, or activities under any work plan or other plan approved under this Consent Decree identified below in accordance with all applicable requirements of law, this Consent Decree, the SOW, and any plans or other documents approved by EPA pursuant to this Consent Decree and within the specified time schedules

established by and approved under this Consent Decree.

82. Class I Penalties

a. The following stipulated penalties shall be payable per violation per day to Plaintiff for any noncompliance identified in Subparagraph b:

Penalty Per Violation Per Day	Period of Noncompliance
\$ 5,000.	1st day through 14th day
\$ 10,000.	15th day through 30th day
\$ 20,000.	31st day and beyond

b. i. Failure to submit timely or adequate Remedial Design Work Plan, Groundwater Hydraulic Containment Evaluation Report, Soil Remedial Design Report, Groundwater Remedial Design Report (if required by EPA), Remedial Action Report, or Performance Standards Verification Plans, as these deliverables are defined in the SOW; or any unauthorized activity at the Site as defined in Paragraph 8.

ii. Failure to submit a timely or adequate Additional Investigation Report, Vadose Zone Treatability Study Report, Vadose Zone Analytical Modeling Report, Cap Design Report, Cap Construction Report, Groundwater Pilot Study Design Report, Groundwater Pilot Study Inspection Report, or Groundwater Pilot Study O&M Manual, if incorporated into the Consent Decree under Paragraph 13;

iii. The failure of any Settling Defendant to make timely payment of amounts to be paid under Section XVII.

83. Class II Penalties

The following stipulated penalties shall be payable per violation per day to Plaintiff for any failure to submit a timely or adequate O&M Manual - Soil Venting, Revisions to the O&M

Manual (if required by EPA), Construction Inspection Report -
Soil Remediation and Construction Inspection Report - Groundwater
Remediation:

Penalty Per Violation Per Day	Period of Noncompliance
\$ 3,000.	1st day through 14th day
\$ 6,000.	15th day through 30th day
\$ 15,000.	31st day and beyond

84. Class III Penalties

The following stipulated penalties shall be payable per violation per day to Plaintiff for failure to submit timely and adequate reports, plans or written documents other than those subject to penalties under Subparagraph 82.b and Paragraph 83 above, and for any noncompliance with the requirements of this Consent Decree concerning all other construction, operation, data gathering and well installation activities, or for any other violations of this Consent Decree, including but not limited to, all implementation schedules, except those subject to penalties under Subparagraph 82.b and Paragraph 83 above:

Penalty Per Violation Per Day	Period of Noncompliance
\$ 2,000.	1st day through 14th day
\$ 4,000.	15th day through 30th day
\$ 10,000.	31st day and beyond

85. Takeover of Work Penalty

In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 103 of Section XXII (Covenants Not to Sue by Plaintiff), Settling Defendants shall be liable for a stipulated penalty in the amount of the lesser of \$1 million or 100% of the costs incurred by EPA in performing the work taken over by EPA. Settling Defendants shall be liable for

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this penalty in addition to paying the costs of that Work as provided in Paragraph 103.

86. Penalties Applicable to De Minimis Settling Defendants

Each De Minimis Settling Defendant shall be liable to Plaintiff for stipulated penalties for (1) failure to grant access in accordance with Paragraph 34; (2) failure to make payments required of them by Paragraph 62; or (3) a violation of Section XXVI (Retention of Records). The stipulated penalty for any violation of this Paragraph shall be five hundred dollars (\$500) per day. Payments shall be made in accordance with the procedure set forth in Paragraph 89 (Payment of Penalties). The provisions of Section XX (Dispute Resolution) and of Paragraph 91 (Invocation of Dispute Resolution) shall apply to any dispute between EPA and De Minimis Settling Defendants with regard to such penalties.

87. Accrual of Penalties

All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs; except for penalties applicable to activities incorporated herein under the provisions of Paragraph 13, which shall begin to accrue on the latest of: (1) the date on which such activities are incorporated into this Consent Decree; (2) the day after complete performance is due; or (3) the day a violation occurs. All penalties shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Consent Decree.

88. Written Notification

Following EPA's determination that Defendants have failed to

comply with a requirement of this Consent Decree, EPA may give Defendants written notification of the same and describe the noncompliance. EPA may send the Defendants a written demand for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified the Defendants of a violation.

89. Payment of Penalties

All penalties owed to Plaintiff under this Section shall be due and payable within thirty (30) days of the Defendants' receipt from EPA of a demand for payment of the penalties, unless Defendants invoke the Dispute Resolution procedures under Section XX (Dispute Resolution). All payments under this Section shall be paid by check made payable to "EPA Hazardous Substances Superfund," and referencing "Hassayampa Landfill Superfund Site, SSID #09B8" and DOJ Case Number 90-11-2-841, and shall be mailed to:

U.S. Environmental Protection Agency, Region IX
ATTENTION: Superfund Accounting
P. O. Box 360863M
Pittsburgh, PA 15251

Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to the United States and EPA as provided in Section XXVII (Notices and Submissions).

90. Continuing Obligations of Settling Defendants

The payment of penalties shall not alter in any way Settling Defendants' obligation to complete the performance of the Work required under this Consent Decree.

91. Invocation of Dispute Resolution

Penalties shall continue to accrue as provided in Paragraph

87 during any dispute resolution period, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of EPA that is not appealed to this Court, accrued penalties determined to be owing shall be paid to EPA within fifteen (15) days of the agreement or the receipt of EPA's decision or order;

b. If the dispute is appealed to this Court and the Plaintiff prevails in whole or in part, Defendants shall pay all accrued penalties determined by the Court to be owed to EPA within sixty (60) days of receipt of the Court's decision or order, except as provided in Subparagraph c below;

c. If the District Court's decision is appealed by any Party, Defendants shall pay all accrued penalties determined by the District Court to be owing to Plaintiff into an interest-bearing escrow account within sixty (60) days of receipt of the Court's decision or order. Penalties shall be paid into this account as they continue to accrue, at least every sixty (60) days. Within fifteen (15) days of receipt of the final appellate court decision, Defendants shall make payment to EPA or secure payment from the escrow account to EPA to the extent that EPA prevails.

92. Waiver of Penalties

In its unreviewable discretion, EPA may waive a portion of the stipulated penalties due under this Section.

93. Failure to Pay Stipulated Penalties

If Defendants fail to pay stipulated penalties when due, Plaintiff may institute proceedings to collect the penalties, as well as interest. Defendants shall pay interest on the unpaid

balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 89 at the rate established pursuant to section 107(a) of CERCLA, 42 U.S.C. § 9607.

94. Other Remedies

Nothing in this Consent Decree shall be construed as prohibiting, altering, or in any way limiting the ability of Plaintiff to seek any other remedies or sanctions available by virtue of Defendants' violation of this Consent Decree or of the statutes and regulations upon which it is based including, but not limited to, penalties pursuant to Section 122(1) of CERCLA, provided that in no case shall the sum of the statutory and stipulated penalties collected by Plaintiff exceed \$25,000 per violation per day.

95. Payments Not Tax Deductible

No payments made under this Section shall be tax deductible for Federal or State tax purposes.

XXII. COVENANTS NOT TO SUE BY PLAINTIFF

96. Covenant for Settling Defendants

In consideration of the actions that will be performed and the payments that will be made by the Settling Defendants under the terms of the Consent Decree, and except as specifically provided in Paragraphs 98, 99 and 101 of this Section, the Plaintiff covenants not to sue or to take administrative action against Settling Defendants pursuant to sections 106 and 107(a) of CERCLA relating to the Site. Except with respect to future liability, these covenants not to sue shall take effect upon the receipt by EPA of the payments required by Paragraph 59 of Section XVII (Reimbursement and Payment of Response Costs). With respect to future liability, these covenants not to sue shall

take effect upon Certification of Completion of Remedial Action by EPA pursuant to Subparagraph 56.b of Section XV (Certification of Completion). These covenants not to sue are conditioned upon the complete and satisfactory performance by Settling Defendants of their obligations under this Consent Decree. These covenants not to sue extend only to the Settling Defendants and do not extend to any other person.

97. Covenant for De Minimis Settling Defendants and Settling Federal Agencies

In consideration of the payments that will be made by the De Minimis Settling Defendants and Settling Federal Agencies pursuant to Section XVII (Reimbursement and Payment of Response Costs) and Appendices F and G, and except as specifically provided in Paragraphs 102 and 104 of this Section, Plaintiff covenants not to sue or to take administrative action against De Minimis Settling Defendants, and EPA covenants not to take administrative action against the Settling Federal Agencies pursuant to sections 106 and 107(a) of CERCLA relating to the Site. These covenants not to sue shall take effect for each De Minimis Settling Defendant on the effective date of this Consent Decree. These covenants not to take administrative action shall take effect for each Settling Federal Agency upon the later of the effective date of this Consent Decree, or the receipt by EPA of proof of the payments required to be made by each such Settling Federal Agency under Section XVII (Reimbursement and Payment of Response Costs). These covenants are conditioned upon the complete satisfaction by the De Minimis Settling Defendants and the Settling Federal Agencies of their payment obligations under this Consent Decree. These covenants extend only to the De

Minimis Settling Defendants and the Settling Federal Agencies and do not extend to any other person.

98. Plaintiff's Pre-certification Reservations

Notwithstanding any other provision of this Consent Decree, the United States reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking to compel the Settling Defendants (1) to perform further response actions relating to the Site or (2) to reimburse Plaintiff for additional costs of response if, prior to certification of completion of the Remedial Action:

(i) conditions at the Site, previously unknown to EPA, are discovered, or

(ii) information, previously unknown to EPA, is received, in whole or in part,

and these previously unknown conditions or information together with any other relevant information indicates that the Remedial Action is not protective of human health or the environment.

99. Plaintiff's Post-certification Reservations

Notwithstanding any other provision of this Consent Decree, Plaintiff reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking to compel the Settling Defendants (1) to perform further response actions relating to the Site or (2) to reimburse Plaintiff for additional costs of response if, subsequent to certification of completion of the Remedial Action:

(i) conditions at the Site, previously unknown to EPA, are discovered, or

(ii) information, previously unknown to EPA, is received, in whole or in part, and these previously unknown conditions or this information together with other relevant information indicate that the Remedial Action is not protective of human health or the environment.

100. Information and Conditions Known to EPA

For purposes of Paragraph 98, the information and the conditions known to EPA shall include only that information and those conditions set forth in the Record of Decision for the Site and the administrative record supporting the Record of Decision. For purposes of Paragraph 99, the information previously received by and the conditions known to EPA shall include only that information and those conditions set forth in the Record of Decision, the administrative record supporting the Record of Decision, and any information received by EPA pursuant to the requirements of this Consent Decree prior to Certification of Completion of the Remedial Action.

101. General Reservations of Rights as to Settling Defendants

The covenants not to sue set forth above do not pertain to any matters other than those expressly specified in Paragraph 96. Plaintiff reserves, and this Consent Decree is without prejudice to, all rights against Settling Defendants with respect to all other matters, including but not limited to, the following:

(1) claims based on a failure by Settling Defendants to meet a requirement of this Consent Decree;

(2) liability arising from the past, present, or future disposal, release, or threat of release of Waste

Materials outside of the Site;

(3) liability for damages for injury to, destruction of, or loss of natural resources;

(4) liability for response costs that have been or may be incurred by the United States Department of the Interior;

(5) criminal liability;

(6) liability for violations of federal or state law which occur during or after implementation of the Remedial Action;

(7) previously incurred costs of response above the amounts reimbursed pursuant to Paragraph 59, Paragraph 60 and Paragraph 61, but not including increased indirect costs resulting from a change in the indirect cost allocation methodology, except as provided in Section XVII

(Reimbursement and Payment of Response Costs, page 50); and

(8) liability for costs that the United States other than the Settling Federal Agencies will incur which are related to the Site but are not within the definition of Future Response Costs.

102. General Reservations of Rights as to De Minimis Settling Defendants and Settling Federal Agencies

The covenants not to sue set forth above do not pertain to any matters other than those expressly specified in Paragraph 97. Plaintiff and federal natural resource trustees reserve, and this Consent Decree is without prejudice to, all rights against De Minimis Settling Defendants with respect to all other matters. EPA and federal natural resource trustees reserve, and this Consent Decree is without prejudice to, all rights against Settling Federal Agencies with respect to all other matters.

These reservations include but are not limited to, the following:

- a. Claims based on a failure of any De Minimis Settling Defendant or any Settling Federal Agency to meet a requirement of this Consent Decree;
- b. Liability arising from the past, present, or future disposal, release, or threat of release of Waste Materials outside of the Site;
- c. Liability for damages for injury to, destruction of, or loss to natural resources;
- d. Liability for response costs that have been or may be incurred by the United States Department of the Interior;
- e. Criminal liability; and
- f. Any liability of the State relating to the Site other than the liability of the State for transport of, or arranging for disposal of, the manifested waste ascribed to the State in Appendix F to this Consent Decree.

103. Takeover of Work by EPA

a. In the event EPA determines that Settling Defendants have failed to implement any provisions of the Work in an adequate or timely manner, EPA may perform any and all portions of the Work as EPA determines necessary. If EPA decides to perform work that is the subject of this Consent Decree, then EPA will, to the extent EPA in its nonreviewable discretion deems practicable, provide Settling Defendants and the State with advance notice thereof and the opportunity for consultation regarding EPA's intention to perform all or a portion of the Work.

b. Settling Defendants may invoke the procedures set forth in Section XX (Dispute Resolution) to dispute EPA's

determination that the Settling Defendants failed to implement a provision of the Work in an adequate or timely manner as arbitrary and capricious or otherwise not in accordance with law. Such dispute shall be resolved on the administrative record. Costs incurred by the United States in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Settling Defendants shall pay pursuant to Section XVII (Reimbursement and Payment of Response Costs).

104. Reopener for De Minimis Settling Defendants and Settling Federal Agencies

Nothing in this Consent Decree will constitute a covenant not to sue or otherwise will limit the ability of Plaintiff to seek or obtain further relief from the De Minimis Settling Defendants, and the covenant not to sue set forth above in Paragraph 97 and the contribution protection provided in Paragraph 110 below will become null and void as to any individual De Minimis Settling Defendant, if information not currently known to Plaintiff is discovered which indicates that such De Minimis Settling Defendant contributed any hazardous substance to the Site in such greater amounts or of such greater toxic or other hazardous effects that such De Minimis Settling Defendant no longer qualifies as a de minimis party with respect to the Site. Nothing in this Consent Decree will constitute a covenant not to take administrative action or otherwise will limit the ability of EPA to seek or obtain further relief from the Settling Federal Agencies, and additionally the covenant not to take administrative action set forth above in Paragraph 97 and the contribution protection provided in Paragraph 110 below will become null and void as to any Settling Federal Agency, if

information not currently known to EPA is discovered which indicates that such Settling Federal Agency contributed any hazardous substance to the Site in such greater amounts or of such greater toxic or other hazardous effects that the Settling Federal Agency no longer qualifies as a de minimis party with respect to the Site.

105. Certification by De Minimis Settling Defendants and Settling Federal Agencies

Each De Minimis Settling Defendant and each Settling Federal Agency certifies that, to the best of its knowledge and belief, it has provided to EPA all information currently in its possession, and all information in the possession of its officers, directors, employees, contractors or agents, which relates in any way to the generation, treatment, transportation or disposal of hazardous substances at or in connection with the Site.

106. Retention of Response Authority

Notwithstanding any other provision of this Consent Decree, the United States retains all authority and reserves all rights to take any and all response actions authorized by law.

XXIII. COVENANTS BY DEFENDANTS AND SETTLING FEDERAL AGENCIES

107. Covenants by Defendants

Defendants hereby covenant not to sue and agree not to assert any claims or causes of action against the United States with respect to the Site, the Order, or this Consent Decree, including, but not limited to, any direct or indirect claim for reimbursement from the Hazardous Substance Superfund (established pursuant to the Internal Revenue Code, 26 U.S.C. § 9507) through CERCLA sections 106(b)(2), 111, 112, 113 or any other provision

of law, any claim against the United States, including any department, agency or instrumentality of the United States under CERCLA sections 107 or 113 related to the Site, or any claims arising out of response activities at the Site. However, the Defendants reserve, and this Consent Decree is without prejudice to: (1) contribution actions against a Settling Federal Agency based on liability arising under Paragraphs 102 and 104; (2) actions against the Settling Federal Agencies based on the Settling Federal Agencies' noncompliance with this Consent Decree; or (3) actions against the United States based on negligent actions taken directly by the United States (not including oversight or approval of the Settling Defendants' plans or activities) that are brought pursuant to any statute other than CERCLA and for which the waiver of sovereign immunity is found in a statute other than CERCLA. Nothing in this Consent Decree shall be deemed to constitute preauthorization of a claim within the meaning of section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

108. Covenants by Settling Federal Agencies

a. Settling Federal Agencies hereby covenant and agree not to assert any claims against Plaintiff with respect to the Site or this Consent Decree, including, but not limited to, any direct or indirect claim for reimbursement from the Hazardous Substance Superfund (established pursuant to the Internal Revenue Code, 26 U.S.C. § 9507) through CERCLA or any other provision of law. Nothing in this Consent Decree shall be deemed to constitute preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

b. In consideration of the actions that will be performed by the Settling Defendants under the terms of this Consent Decree, the Settling Federal Agencies covenant not to sue the Settling Defendants with respect to the Site, the Order or this Consent Decree. These covenants not to sue are conditioned upon the complete and satisfactory performance by Settling Defendants of their obligations under this Consent Decree. These covenants not to sue extend only to the Settling Defendants and do not extend to any other person.

XXIV. EFFECT OF SETTLEMENT; CONTRIBUTION PROTECTION

109. No Effect on Non-Parties

Nothing in this Consent Decree shall be construed to create any rights in, or grant any cause of action to, any person not a party to this Consent Decree. The preceding sentence shall not be construed to waive or nullify any rights that any person not a signatory to this decree may have under applicable law. Each of the Parties expressly reserves any and all rights (including, but not limited to, any right to contribution), defenses, claims, demands, and causes of action which each party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a party hereto.

110. Contribution Protection

With regard to claims for contribution against Defendants and Settling Federal Agencies for matters addressed in this Consent Decree, the Parties hereto agree that the Defendants and the Settling Federal Agencies are entitled to such protection from contribution actions or claims as is provided by CERCLA sections 113(f)(2) and 122(g)(5), 42 U.S.C. §§ 9613(f)(2) and 9613(g)(5), as applicable.

111. Notification of Suits Brought by Defendants

The Defendants agree that with respect to any suit or claim for contribution brought by them for matters related to this Consent Decree they will notify the United States in writing no later than sixty (60) days prior to the initiation of such suit or claim.

112. Notification of Suits Brought Against Defendants

The Defendants also agree that with respect to any suit or claim for contribution brought against them for matters related to this Consent Decree they will notify in writing the United States within ten (10) days of service of the complaint on them. In addition, Defendants shall notify the United States within ten (10) days of service or receipt of any Motion for Summary Judgment and within ten (10) days of receipt of any order from a court setting a case for trial.

113. Subsequent Administrative or Judicial Proceeding

In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, recovery of response costs, or other appropriate relief relating to the Site, Defendants shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States in the subsequent proceeding were or should have been brought in the instant case; provided, however, that nothing in this Paragraph affects the enforceability of the covenants not to sue set forth in Section XXII (Covenants Not to Sue by Plaintiff).

XXV. ACCESS TO INFORMATION

114. Information to be Provided to EPA

Subject to Paragraphs 115 and 116, Settling Defendants shall provide to EPA, upon request, copies of all documents and information within their possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Consent Decree, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Settling Defendants shall also make available to EPA, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

115. Confidentiality and Privileges

a. Settling Defendants may assert confidentiality claims covering part or all of the documents or information submitted to Plaintiff under this Consent Decree to the extent permitted by and in accordance with section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified Settling Defendants that the documents or information are not confidential under the standards of section 104(e)(7) of CERCLA, the public may be given access to such documents or information without further notice to Settling Defendants.

b. The Settling Defendants may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Settling Defendants assert such a privilege in lieu of providing documents, they shall provide EPA with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the contents of the document, record, or information; and (6) the privilege asserted by Settling Defendants. However, no documents, reports or other information created or generated pursuant to the requirements of the Consent Decree shall be withheld on the grounds that they are privileged.

116. Data Not Subject to Confidentiality

No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

XXVI. RETENTION OF RECORDS

117. Record Retention Period

a. Until 6 years after the Settling Defendants' receipt of EPA's notification pursuant to Subparagraph 56.b of Section XV (Certification of Completion), each Defendant and Settling Federal Agency shall preserve and retain at least a single copy of all nonidentical records, documents, and recorded information now in its possession or control or which come into

its possession or control that relate in any manner to the performance of the Work, to the activities performed by Respondents under the Order, or to the liability of any person for response actions conducted and to be conducted at the Site, regardless of any corporate retention policy to the contrary. Until 6 years after the Settling Defendants' receipt of EPA's notification pursuant to Subparagraph 56.b of Section XV (Certification of Completion), Defendants and Settling Federal Agencies shall also instruct their contractors and agents to preserve and retain at least a single copy of all non-identical documents, records, and recorded information of whatever kind, nature or description relating to the performance of the Work, to the activities performed by Respondents under the Order, or to the liability of any person for response actions conducted and to be conducted at the Site.

b. The document retention requirements set forth in Subparagraph 117.a above shall not apply to drafts (other than those referred to by name in this Consent Decree), including any handwritten notes or comments of a Defendant or Settling Federal Agency, or phone message slips, except any such draft or phone message slip that contains data relevant to the Work or to the activities under the Order that is not otherwise being preserved under this Consent Decree.

118. Notification Prior to Destruction

At the conclusion of this document retention period, Defendants and Settling Federal Agencies shall notify the United States at least ninety (90) days prior to the destruction of any such records or documents, and, upon request by Plaintiff, Defendants and Settling Federal Agencies shall deliver any such

records or documents to EPA. The Defendants and Settling Federal Agencies may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Defendants or Settling Federal Agencies assert such a privilege, they shall provide EPA with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by the Defendant or Settling Federal Agency. However, no documents, reports or other information created or generated pursuant to the requirements of the Consent Decree or of the Order shall be withheld on the grounds that they are privileged.

119. CD Record Retention Supersedes Order

On the effective date of this Consent Decree, the provisions of this Section shall supersede the provisions of the Record Preservation section of the Order as to Settling Defendants, and each Settling Defendant shall be relieved from the requirements of that section of the Order.

120. Certification

Each Defendant hereby certifies, individually, after inquiry of all relevant personnel, that it has retained at least a single copy of all non-identical records, documents or other recorded information relating to the potential liability of any party regarding the Site since notification of potential liability by EPA or the State or the filing of suit against it regarding the Site, and that the retained copy has not been altered or

mutilated. Each Defendant and each Settling Federal Agency also certifies, individually, that it has fully complied with any and all EPA requests for information pursuant to sections 104(e) and 122(e) of CERCLA and section 3007 of RCRA.

XXVII. NOTICES AND SUBMISSIONS

121. Whenever, under the terms of this Consent Decree, written notice is required to be given or a report or other document is required to be sent by one party to another, it shall be directed to the individuals at the addresses specified below, unless those individuals or their successors give notice of a change to the other parties in writing. All notices and submissions shall be considered effective upon receipt, unless otherwise provided. Written notice as specified herein shall constitute complete satisfaction of any written notice requirement of the Consent Decree with respect to the United States, EPA, and the Settling Defendants, respectively.

As to the United States and/or Plaintiff:

Chief, Environmental Enforcement Section
Environment & Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Ben Franklin Station
Washington, D.C. 20044
Telephone: (202) 514-5271
Facsimile: (202) 514-0097
Re: DOJ # 90-11-2-841

and

Jeffrey Zelikson
Director, Hazardous Waste Management Division
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105
Telephone: (415) 744-1730
Facsimile: (415) 744-1796

As to EPA:

Roberta Riccio, H-7-2
Remedial Project Manager
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105
Telephone: (415) 744-2369
Facsimile: (415) 744-1917

Robert Ogilvie, RC-3-3
Assistant Regional Counsel
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105
Telephone: (415) 744-1332
Facsimile: (415) 744-1041

As to the State:

Anita Pritchard, Remedial Projects Manager
Arizona Department of Environmental Quality, Waste Programs
Division
3033 North Central Avenue
Phoenix, AZ 85012
Telephone: (602) 207-4193; (602) 207-2300
Facsimile: (602) 207-4236

As to the Settling Defendants:

Stephen M. Quigley
Conestoga-Rovers & Associates, Ltd.
651 Colby Drive
Waterloo, Ontario, CANADA N2V 1C2
Telephone: (519) 725-3313
Facsimile: (519) 725-1394

William R. Victor
Errol L. Montgomery & Associates, Inc.
7949 East Acoma Drive, Suite 100
Scottsdale, Arizona 85260
Telephone: (602) 948-7747
Facsimile: (602) 948-8737

James G. Derouin, Chairman
Hassayampa Steering Committee
Meyer, Hendricks, Victor, Osborn & Maledon
2929 North Central Avenue, Suite 2100
Phoenix, AZ 85012-2798
Telephone: (602) 640-9311
Facsimile: (602) 640-9050

Nancy Onkka, Esq.
Corporate Environmental Counsel
MN12-8251
Honeywell, Inc.
P.O. Box 524
Minneapolis, MN 55440
Telephone: (612) 951-0574
Facsimile: (612) 951-0649

Robert W. Hacker
M/S B-29
13430 North Black Canyon Highway
Phoenix, AZ 85029
Telephone: (602) 862-4955
Facsimile: (602) 862-6973

XXVIII. EFFECTIVE DATE

122. The effective date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court, except as otherwise provided herein.

XXIX. RETENTION OF JURISDICTION

123. This Court retains jurisdiction over both the subject matter of this Consent Decree and the Defendants for the duration of the performance of the terms and provisions of this Consent Decree for the purpose of enabling any of the Parties to apply to the Court at any time for such further order, direction, and relief as may be necessary or appropriate for the construction or modification of this Consent Decree, or to effectuate or enforce compliance with its terms, or to resolve disputes in accordance with Section XX (Dispute Resolution) hereof.

XXX. APPENDICES

124. The following appendices are attached to and incorporated into this Consent Decree:

"Appendix A" is the Hassayampa ROD.

"Appendix B" is the Hassayampa Consent Decree SOW.

"Appendix C" is the description and map of the Hassayampa Landfill.

"Appendix D" is the complete list of the Non-Owner Settling Defendants.

"Appendix E" is the complete list of the Owner Settling Defendants.

"Appendix F" is the complete list of the De Minimis Settling Defendants and their volumetric rankings.

"Appendix G" is the complete list of Settling Federal Agencies, their volumetric rankings and the payment schedule applicable to them.

XXXI. COMMUNITY RELATIONS

125. Settling Defendants shall propose to EPA and the State their participation in the community relations plan to be developed by EPA. EPA will determine the appropriate role for the Settling Defendants under the Plan. Settling Defendants shall also cooperate with EPA and the State in providing information regarding the Work to the public. As requested by EPA, Settling Defendants shall participate in the preparation of such information for dissemination to the public and in public meetings which may be held or sponsored by EPA or the State to explain activities at or relating to the Site.

XXXII. MODIFICATION

126. Modification of Schedules

Schedules specified in this Consent Decree, or set forth in the SOW or developed as described in the SOW and approved by EPA, for completion of the Work may be modified by agreement of EPA and the Settling Defendants. All such modifications shall be made in writing.

127. Modifications to Scope of Work

No material modifications shall be made to the SOW without

written notification to and written approval of Plaintiff, Settling Defendants, and the Court. Prior to providing its approval to any modification, Plaintiff will provide the State with a reasonable opportunity to review and comment on the proposed modification. Modifications to the SOW that do not materially alter that document may be made by written agreement between EPA, after providing the State with a reasonable opportunity to review and comment on the proposed modification, and the Settling Defendants.

128. Court's Power

Nothing in this Consent Decree shall be deemed to alter the Court's power to enforce, supervise or approve modifications to this Consent Decree.

129. Termination as to De Minimis Parties

Upon the entry of this Consent Decree, the Court shall terminate this Consent Decree as to the De Minimis Settling Defendants which have made the payments required by Paragraph 62. Such termination and dismissal shall not affect the operation of and the obligations under Sections XXII (Covenants Not to Sue by Plaintiff), XXIII (Covenants by Defendants), Section XXIV (Effect of Settlement; Contribution Protection), and Section XXVI (Retention of Records).

XXXIII. LODGING AND OPPORTUNITY FOR PUBLIC COMMENT

130. Public Notice and Comment

This Consent Decree shall be lodged with the Court for a period of not less than thirty (30) days for public notice and comment in accordance with sections 122(d)(2) and 122(i) of CERCLA, 42 U.S.C. § 9622(d)(2) and 9622(i), and 28 C.F.R. § 50.7. Plaintiff reserves the right to withdraw or withhold its consent

if the comments regarding the Consent Decree disclose facts or considerations which indicate that the Consent Decree is inappropriate, improper, or inadequate. Defendants consent to the entry of this Consent Decree in the form lodged with the Court without further notice.

131. Effect of Disapproval by Court

If for any reason the Court should decline to approve this Consent Decree in the form presented, this agreement is voidable at the sole discretion of any party and the terms of the agreement may not be used as evidence in any litigation between the Parties.

XXXIV. SIGNATORIES/SERVICE

132. Authority to Execute

Each undersigned representative of a Defendant to this Consent Decree, and the Assistant Attorney General for Environment and Natural Resources of the Department of Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind such party to this document.

133. Consent to Entry

Each Defendant hereby agrees not to oppose entry of this Consent Decree by this Court or to challenge any provision of this Consent Decree unless Plaintiff has notified the Defendants in writing that it no longer supports entry of the Consent Decree.

134. Agent for Service

Each Defendant shall identify, on the attached signature page, the name, address and telephone number of an agent who is authorized to accept service of process by mail on behalf of that

party with respect to all matters arising under or relating to this Consent Decree. Defendants hereby agree to accept service in that manner and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable local rules of this Court, including, but not limited to, service of a summons.

SO ORDERED THIS 22nd DAY OF November, 1994.


United States District Judge

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR THE UNITED STATES OF AMERICA:

Date:

8/29/89


LOIS J. SCHIFFER

Acting Assistant Attorney General
Environment & Natural Resources Division
U.S. Department of Justice
Washington, D.C. 20530

JANET A. NAPOLITANO
United States Attorney
District of Arizona

Date:

9-2-94

By:


MICHAEL A. JOHNS

Assistant United States Attorney
4000 United States Courthouse
230 North First Avenue
Phoenix, AZ 85025

Date:

3/30/94


ADAM M. KUSHNER

Environmental Enforcement Section
Environment & Natural Resources Division
U.S. Department of Justice
Washington, D.C. 20530

Date:

9/1/94

 for 
DAVID M. THOMPSON

Environmental Defense Section
Environment & Natural Resources Division
U.S. Department of Justice
Washington, D.C. 20530

Date: 8.24.94

John C. Wise
FELICIA MARCUS *for*
Regional Administrator, Region IX
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

Date: Aug. 17, 1994

Harrison L. Karr
HARRISON L. KARR
Assistant Regional Counsel, Region IX
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

Date: August 17, 1994

R. B. Ogilvie
ROBERT B. OGILVIE
Assistant Regional Counsel, Region IX
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR ALCATEL NETWORK SYSTEMS COMPANY, INC.

Date: 6/24/94

Name: DENNIS O. KRAFT

Title: V.P. AND GENERAL COUNSEL

Address: _____

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: CHARLES D. ENGLAND

Title: CORP.MGR ENVIRONMENTAL AFFAIRS, SAFETY & LOSS

Address: 1225 N. ALMA RD. - MS 411-140

Tel. Number: RICHARDSON, TX PHONE (214)996-5205

PREVENTION

[Please Type]

ALTERNATE:

Name: JONATHAN D. OECHSLE

Title: ATTORNEY


Address: NATIONS BANK CORPORATE CENTER, 100 N. TRYON ST.
FLOOR 47, CHARLOTTE, NC 28202-4003

(Please Type)

Telephone: (704)331-1099

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR AMERICAN NATIONAL CAN COMPANY, INC.

Date: July 12, 1994 Name: 
Title: SENIOR VICE PRESIDENT
Address: 8770 W. Bryn Mawr Ave. Chicago, IL
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: JOSEPH S. MORAN
Title: Assistant General Counsel - Environmental
Address: 8770 W. Bryn Mawr Ave., 14C Chicago, IL 60631
Tel. Number: (312) 399-3658
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Arizona Public Service COMPANY, INC.

Date: 6/15/99 Name: Richard W. MacLean
Title: Vice President, Environmental, Health and Safety
Address: P.O. Box 53999, MS 9366, Phoenix, AZ 85072-3999
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Charles A. Bischoff
Title: Attorney
Address: Gallagher & Kennedy, 2600 N. Central Ave, Phoenix, AZ 85004-3020
Tel. Number: (602) 530-8000
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR AT&T (Western Electric) COMPANY, INC.

Date: 7/05/94

Name: *John C. Borum*

Title: Corp. Environmental & Safety Engineering Vice President

Address: 131 Morristown Road, Basking Ridge, NJ 07920

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Jacqueline M. Merson

Title: Attorney

Address: 131 Morristown Road Room B2158


Tel. Number: (908) 204-8448

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Bull HN Information Systems Inc. COMPANY, INC.

Date: June 20, 1994


Name: Thomas J. Gallagher
Title: Executive VP, General Counsel & Secretary
Address: Technology Park, Billerica, MA 01821-4199
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Carl C. Meier
Title: Assistant General Counsel - Honeywell
Address: P.O. Box 524 MN12-8251, Minneapolis, MN
Tel. Number: 612/951-0571
[Please Type]

55440-
0524

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Digital Equipment Corporation COMPANY, INC.

Date: July 8, 1994

Name: Kay Breeden
Title: Corp. Environmental Health & Safety Director
Address: 111 Powdermill Road, Maynard, MA 01754
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Cindy Lewis
Title: Environmental Attorney
Address: 111 Powdermill Road, Maynard, MA 01754
Tel. Number: (508)493-5242
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR General Instrument Corporation ~~COMPANY XXXXX~~

Date: JUNE 29, 1994

Name: 

Title: Vice President and General Counsel

Address: 181 West Madison, Chicago, IL 60602

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: CT Corporation System c/o Mary Janiszewski

Title: _____

Address: 208 South LaSalle Street, Chicago, IL 60604

Tel. Number: (312) 345-4320

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Honeywell COMPANY, INC.

Date: July 1, 1994

Name: 
Title: President, Space & Aviation Control
Address: 21111 N. 19th Avenue, Phoenix, AZ 85027
[Please Type]

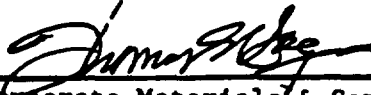
Agent Authorized to Accept Service on Behalf of Above-signed Party:

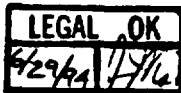
Name: Carl C. Meier
Title: Assistant General Counsel
Address: P.O. Box 524, M/S MN12-8251, Minneapolis, MN 55440-0524
Tel. Number: (612) 951-0571
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR INTEL CORPORATION COMPANY, INC.

Date: _____

Name: Thomas L. Hogue 
Title: Vice President, Corporate Materials & Services
Address: 145 S. 79th Street, Chandler, AZ 85226-4799
[Please Type]



Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: John R. Masterman, M/S FM1-86
Title: Senior Attorney
Address: 1900 Prairie City Road, Folsom, CA 95630
Tel. Number: (916) 356-5529
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Maricopa County

Date: 6.22.94

Name: Betsy Bayless

Title: Chairman, Maricopa County Board of Supervisors

Address: 301 W. Jefferson, 10th Floor, Phoenix, AZ

[Please Type]

85003

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Fran McCarroll

Title: Clerk of the Maricopa County Board of Supervisors

Address: 301 W. Jefferson, 10th Floor, Phoenix, AZ 85003

Tel. Number: 506-3767

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR REYNOLDS METALS COMPANY, XINX

Date: 7/5/94

Name: John B. Kelzer

Title: Vice President & General Manager

Address: 6603 W. Broad Street, Richmond, VA 23230

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: D. Michael Jones, Esq.

Title: Vice President, General Counsel & Secretary

Address: 6601 West Broad Street, Richmond, Virginia 23230-1701

Tel. Number: (804) 281-2427

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR STELLER CO COMPANY, INC.

Date: 6/29/94 Name: C. J. WARD
Title: MGR. REMEDIATION
Address: BOX 4320 HOUSTON TX 77210
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Thomas W. Kearns
Title: Senior Attorney
Address: P.O. Box 2463, Houston, TX 77252-2463
Tel. Number: 713/241-5633
[Please Type]

THE UNDERSIGNED PARTY enters into this COSENT DECREE in the matter of UNITED STATES v. ALCATE INFORMATION SYSTEMS, Inc., Et al., relating to the HASSAYAMPA LANDFILL SUPERFUND SITE.

FOR -- AAMCO COMPANY, INC.

DATE: 7-15-94

NAME:  RON STAFFORD

TITLE: PRESIDENT OWNER

ADDRESS: 8825 Nth Black Canyon Hwy Pk, Az. 85021

AGENT AUTHORIZED to ACCEPT SERVICE on BEHALF of ABOVE-signed PARTY:

NAME:

RON STAFFORD

TITLE:

PRESENT OWNER

ADDRESS: 8825 Nth Black Canyon Hwy Pk. Az. 85021

TEL. NUMBER:

(602) 997-6289

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR ACTION CHEMICAL COMPANY, ~~XXXX~~

Date: August 5, 1994 Name: Ralph Splittberger
Title: _____
Address: 7028 E. Sunnyvale Rd.

[Please Type]

Paradise Valley, AZ 85253

Agent Authorized to Accept Service on Behalf of Above-signed Party:

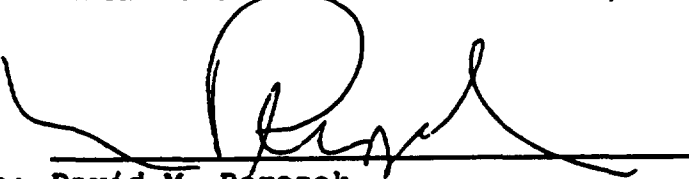
Name: Ralph Splittberger
Title: _____
Address: 7028 E. Sunnyvale Rd., Paradise Valley, AZ 85253
Tel. Number: (602)948-1916

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR ADVANCED TECHNOLOGY LABORATORIES, INC.

Date: June 28, 1994

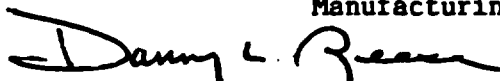

Name: David M. Perozek
Title: President
Address: 22100 Bothell Everett Highway
Bothell, WA 98021

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: W. Brinton Yorks, Esq.
Title: Vice President, Legal, General Counsel & Secretary
Address: 22100 Bothell Everett Highway
Bothell, WA 98021
Tel. Number: (206) 487-7152

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR ALLIEDSIGNAL, INC. as successor to Airesearch
Manufacturing Co.



Date: 7-5-94 Name: Danny L. Reese
Title: Director, Health, Safety & Environmental
Address: AlliedSignal Engine
[Please Type]
1944 Sky Harbor Circle
Phoenix, AZ 85034

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Kenneth J. Berke
Title: Senior Attorney
Address: 2525 W. 190th Street, Torrance, CA 90504
Tel. Number: (310) 512-1861
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR AMD Industries, Inc. COMPANY, INC.
FORMERLY UNION MANUFACTURING

Date: 6/30/94 Name: Howard Krueger
Title: Howard Krueger
Address: 410 North Leroux Flagstaff, Arizona 86001
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Mary Beth DeBord Altheimer & Gray
Title: Attorney
Address: 10 South Wacker Drive, Suite 4000 Chicago, IL 60606
Tel. Number: 312/715-4635
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR AMERICAN PARTS SYSTEM ~~COMPANY~~ INC.

E. Eugene Lauver

Date: June 30, 1994 Name: E. Eugene Lauver
Title: Vice President & General Counsel
Address: 3000 Pawnee, Houston, TX 77054
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

E
Name: E. Eugene Lauver
Title: Vice President & General Counsel
Address: 3000 Pawnee, Houston, TX 77054
Tel. Number: (713) 749-8135
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Dunn-Edwards Corporation COMPANY, INC.

Date: June 28, 1994

Name:  Robert E. Mitchell

Title: Chairman of the Board

Address: 4885 East 52nd Place, Los Angeles, CA 90040

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Robert Wendoll

Title: Director of Environmental Affairs

Address: 4885 East 52nd Place, Los Angeles, CA 90040

Tel. Number: 213/771-3330 Ext. 2263

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Anocad Plating & Painting COMPANY, INC.

Date: June 28, 1994 Name: David A. Rodriguez *David A. Rodriguez*
Title: President
Address: 6033 W. Sherman St., Phoenix, AZ 85043-3514
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Curtis D. Ensign
Title: Attorney
Address: 3225 N Central Ave, Ste. 1609, Phx, AZ 85012
Tel. Number: (602) 266-3300
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

Arizona Petroleum Contractors & Consultants Inc.
FOR Robert D. Mahlstede COMPANY, INC.

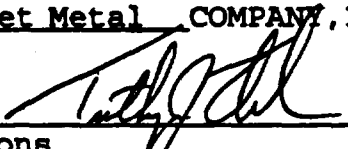
Date: 7/5/94 Name: Robert D. Mahlstede
Title: Vice President
Address: 5632 N 54th Ave.
[Please Type]
Glendale, AZ 85301

Agent Authorized to Accept Service on Behalf of Above-signed Party:

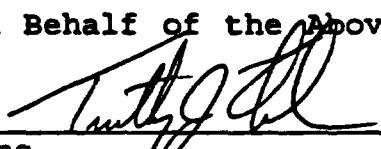
Name: Robert D. Mahlstede
Title: Vice President
Address: 5632 N 54th Ave, Glendale, AZ 85301
Tel. Number: 602-930-1515
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Arizona Precision Sheet Metal COMPANY, INC.

Date: 06/22/94 Name: Tim Thul 
Title: V.P. Operations
Address: 17624 N. 25th Ave. Phx. AZ. 85023-2193
(Please Type)

Agent Authorized to Accept Service on Behalf of the Above-Signed Party:

Name: Tim Thul 
Title: V.P. Operations
Address: 17624 N. 24th Ave. Phx. AZ. 85023-2193
Tel. Number: (602) 942-8280

Hassayampa Landfill Consent Decree

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR WILBUR-ELLIS COMPANY, INC.

Date: 07/06/94

Name:  (G. B. Donaldson)

Title: Director Regulatory Affairs

Address: 191 W. Shaw Avenue, Suite 107, Fresno, CA 93704-2876
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: G. B. Donaldson
Title: Director Regulatory Affairs
Address: 191 W. Shaw Avenue, Suite 107, Fresno, CA 93704-2876
Tel. Number: (209) 226-1934
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

WASTE MANAGEMENT OF ARIZONA, INC.

FOR CONFIDENTIAL

Date: 7/7/94

Name: Lisa S. Zebovitz

Title: Senior Environmental Counsel

Address: 3003 Butterfield Road, Oak Brook, IL 60521

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

C T CORPORATION SYSTEM

Name: Jeffrey H. Terry, Team Leader

Title: 208 South La Salle Street, Chicago, IL 60614


Address: 312/263-1414

Tel. Number: [Please Type]

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Tierany Turbines COMPANY, INC.

Date: June 22, 1994 Name: 
Title: Chairman
Address: 2600 Marine Ave. Redondo Beach, CA
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Thomas D. Rasmussen
Title: Vice President, Tiernay Metals
Address: 2600 Marine Ave. Redondo Beach, CA 90278
Tel. Number: 312/676-0184
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR VALLEY STEEL COMPANY, INC. aka
VALLEY STEEL & SUPPLY CO. VALLEY WASTE, VALLEY STEEL SOLID
WASTE AND VES CO., INC.

Date: _____

Name: _____

IRWIN SHEINBEIN

Title: Secretary/Treasurer

Address: P. O. Box 27176, Tempe, AZ 85282

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: IRWIN SHEINBEIN

Title: Secretary/Treasurer

Address: P. O. Box 27176, Tempe, AZ 85282

Tel. Number: _____

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR UNION CARBIDE CORPORATION ~~XXXXXXXXXX~~

R. Van Mynen DHS

Date: July 5, 1994

Name: R. Van Mynen

Title: Vice President-Health, Safety & Environment

Address: 39 Old Ridgebury Road, Danbury, CT 06817

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Richard G. Tisch

Title: _____

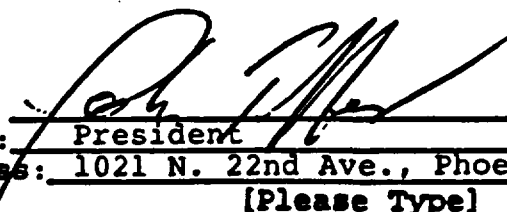
Address: 39 Old Ridgebury Road, Danbury, CT 06817

Tel. Number: (203) 794-6584

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR TREFFERS PRECISION COMPANY, INC.

Date: July 14, 1994 Name: 
Title: President
Address: 1021 N. 22nd Ave., Phoenix, AZ 85009
[Please Type]

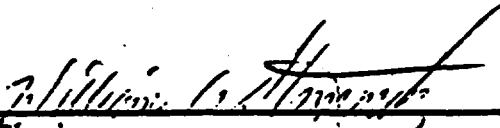
Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: John Treffers
Title: President
Address: 1021 N. 22nd Ave., Phoenix, AZ 85009
Tel. Number: (602) 258-1554
[Please Type]

Hassayampa Landfill Consent Decree

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Tiernay Castings COMPANY, INC.

Date: June 22, 1994 Name: 
Title: Chairman
Address: 2600 Marine Ave. Redondo Beach, CA
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Thomas D. Rasmussen
Title: Vice President, Tiernay Metals
Address: 2600 Marine Ave. Redondo Beach, CA 90278
Tel. Number: 310/676-0184
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR TEXACO REFINING AND MARKETING INC.
~~COMPANY INC.~~


Lowell N. Elsen

Date: June 24, 1994

Name: Lowell N. Elsen
Title: Assistant Secretary
Address: 10 Universal City Plaza, Ste. 1300
Universal City, CA [Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Lowell N. Elsen
Title: Regional Counsel
Address: 10 Universal City Plaza, Ste. 1300, Universal City, CA 91608
Tel. Number: (818)505-3100
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FORTED LEVINE DRUM COMPANY COMPANY, INC.
RE: DIAMOND DRUM COMPANY

Date: 06/10/94

Name: OZZIE LEVINE

Title: PRESIDENT

Address: 1817 CHICO AVE. SO. EL MONTE, CA. 91733
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: LEONARD INGER ESQ.

Title: INGER & SCHICMAN

Address: 9107 WILSHIRE BLVD. # 400 BEVERLY HILLS, CA. 90210

Tel. Number: (310) 273-3555

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of the United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR the State of Arizona; Arizona Department of Public Safety; Arizona Department of Health Services

Date: July 7 1994

Name: L. Maguire
Title: ACTING RISK MANAGER
Address: 1813 West Adams
Phx AZ 85007
Tel. No.: (602) 542-1408
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: L. Maguire
Title: ACTING RISK MANAGER
Address: 1813 West Adams
Phx AZ 85007
Tel. No.: (602) 542-1408
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR SQUARE D COMPANY COMPANY, INC.

Date: June 30, 1994


Name: Richard Widdowson

Title: Corp. Manager, Safety Health & Environ. Affairs

Address: 1415 S. Roselle Rd., Palatine, IL 60067

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: _____

Title: _____

Address: _____

Tel. Number: _____

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR SOUTHWEST DISTRIBUTING COMPANY, INC.

Date: 7-7-94

Name: STEVEN J. PERKINS

Title: PRESIDENT

Address: 222 S. DATE ST., MESA, AZ. 85210

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: STEVEN J. PERKINS

Title: PRESIDENT

Address: 222 S. DATE ST., MESA, AZ. 85210

Tel. Number: 602-969-8413

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR SOUTHERN PACIFIC PIPELINES INC.,
COMPANY, INC.

Date: 7-7-94

Name:

R. G. CUNNINGHAM

Title:

V. P. GEN. COUNSEL

Address:

888 S. FIGUEROA ST. LOS ANGELES

[Please Type]

C17
56117

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name:

R. Gregory Cunningham

Title:

Vice President and General Counsel

Address:

888 South Figueroa Street, Los Angeles, CA 90017

Tel. Number:

(213) 486-7929

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR R.R. & R.R. Evans COMPANY, INC.

Date: June 17, 1994


Name: Wayne J. Brown

Title: President

Address: P.O. Box 5840, Mesa AZ 85211-5840

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: _____

Title: _____

Address: _____

[Please Type]

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Rogers Corporation ~~COMPANY, INC.~~

Robert M. Soffer, Treasurer

Date: July 5, 1994

Name: Robert M. Soffer, Treasurer

Title: Treasurer

Address: One Technology Drive, Rogers, CT 06263
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: C T Corporation System

Title: _____

Address: 3225 North Central Ave., Phoenix, AZ 85012

Tel. Number: 602-277-4792

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

Ringier America, Inc.
FOR (f/k/a W.A. Krueger Co.) COMPANY, INC.

Date: July 7, 1994

Name: J. C. Danek J. C. Danek
Title: Vice President General Counsel & Secretary
Address: One Pierce Place, Itasca, IL 60143
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: CT Corporation
Title: _____
Address: _____
Tel. Number: _____
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Ramada Energy Systems, Inc. ~~COMPANY, INC.~~
Ramada Energy Systems

Date: July 5, 1994 Name: N. W. Armstrong, Jr.
Title: President
Address: 2390 E. Camelback Rd. Ste. 400
[Please Type] Phoenix, AZ 85016

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: N.W. Armstrong, Jr.
Title: President - Ramada Energy Systems, Inc.
Address: 2390 E. Camelback Rd. Ste. 400, Phoenix, AZ 85016
Tel. Number: 602/381-4120
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR PRESTIGE CLEANERS, INC. COMPANY, INC.

Date: 6/27/94 Name: *Don C. Frye*
Title: PRESIDENT
Address: 7126 E. Sahuaro Dr. Scottsdale, AZ 85254
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: *Don C. Frye*
Title: PRESIDENT
Address: 7126 E. Sahuaro Dr., Scottsdale, AZ 85254
Tel. Number: 602-948-2781
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR POWERINE OIL COMPANY, INC.


Date: 6-30-94 Name: *June Christman*
Title: June M. Christman
Title: Manager - Environmental Engineering
Address: 12354 Lakeland Road, Santa Fe Springs, CA 90670-3857
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: _____
Title: _____
Address: _____
Tel. Number: _____
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

PIERCE AVIATION, INC.

By 
JAMES PIERCE
President
Route 2, Box 968
Buckeye, Arizona 85326

DATE: 7-13-94

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Alfred J. Olsen, Esq.
Olsen-Smith, Ltd.
301 E. Virginia, Suite 3300
Phoenix, AZ 85004-1267
Telephone: 254-1040

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Phoenix Newspapers, Inc. COMPANY, INC.

Date: 07/01/94

Name: *Louis A. Weil*

Louis A. Weil III

Title: Publisher/CEO

Address: 120 E. Van Buren, Phoenix, AZ 85004

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: _____

Title: _____

Address: _____

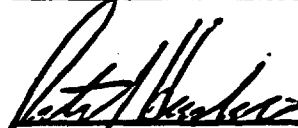
Tel. Number: _____

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Phoenix Heat Treating, Inc. COMPANY, INC.

Date: 6/30/94

Name:  Peter J. Hushek
Title: President
Address: 2405 W. Mohave, Phoenix, AZ 85009
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: _____
Title: _____
Address: _____
Tel. Number: _____
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

Phil's Pumping & Electric Rooter Service/Phil's Septic
FOR _____ COMPANY, INC.

Charles M. Leischer

Date: July 6th, 1994 Name: Charles M. Leischer
Title: Vice-President
Address: 1200 Midwest, Green River, WY 82935
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed
Party:

Charles M. Leischer

Name: Charles M. Leischer
Title: Vice-President
Address: 1200 Midwest, Green River, WY 82935
Tel. Number: 307-875-2324
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Motorola Inc. COMPANY, INC.

Date: June 27, 1994

Name: 

Title: V.P. and Director of Environmental, Health & Safety

Address: 3102 N. 56th St., Phoenix, Arizona 85018

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: C.T. Corporation

Title: 3223 North Central Avenue

Address: P.O. Box 33700, Phoenix, AZ 85067

Tel. Number: (602) 277-4792

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR McKESSON CORPORATION *cts*

BY: *Alan Pearce*

Date: 7/5/94

Name: ALAN PEARCE

Title: Assistant Treasurer

Address: One Post Street, San Francisco, CA 94104
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Dinah L. Szander

Title: Assistant General Counsel

Address: One Post Street, San Francisco, CA 94104

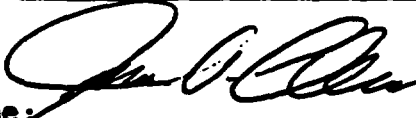
Tel. Number: 415-983-7506

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR McGRW-EDISON COMPANY, INC.

Date: 7/6/94


Name: _____
Title: VICE-PRESIDENT
Address: P.O. BOX 4446, HOUSTON, TEXAS 77210
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: MARK J. AIROLA
Title: SR. COUNSEL, LITIGATION
Address: P.O. Box 4446, HOUSTON, TX 77025
Tel. Number: (713) 739-5541
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR KARLSON MACHINE WORKS, INC. ~~COMPANY, INC.~~

Date: July 15, 1994 Name: Gail Houser
Title: President
Address: 605 East Grant St., Phoenix, AZ 85004
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Steven Feola, Esq.
Title: Attorney at Law
Address: 2800 N. Central Ave., #1400, Phx., AZ. 85004
Tel. Number: (602) 277-7473
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR ITT Cannon, Inc., a Division of ITT Corporation



Date: June 27, 1994

Name: Stephen M. Moran
Title: Sr. Counsel and Secretary
Address: 1851 E. Deere Ave., Santa Ana, CA 92705
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Any CT Corporation System Office

Name: _____
Title: _____
Address: _____
Tel. Number: _____
[Please Type]

RECEIVED JUL 11 1994

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Hubbell Hermetic Refrigeration, Inc.

John F. Mulvihill

Date: 7/1/94 Name: John F. Mulvihill
Title: Assistant Secretary
Address: 584 Derby Milford Road, Orange, CT 06477
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: John F. Mulvihill
Title: Assistant General Counsel of Hubbell Incorporated
Address: 584 Derby Milford Road, Orange, CT 06477-4024
Tel. Number: (203) 799-4100
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Helena Chemical COMPANY, INC.

Date: 6-30-94 Name: Bobby Pace Bobby Pace
Title: V.P. Technical Services
Address: 6075 Poplar Avenue, Suite 500, Memphis, TN 38119
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: CT Corporation
Title: _____
Address: 3225 N Central Avenue, Phoenix, AZ 85012
Tel. Number: 602-277-4792
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

GTE COMMUNICATION
FOR SYSTEMS CORPORATION* COMPANY, INC.

Date:

6/22/94

Name:

[Signature]

P. E. LUDWIG

Title:

TREASURER

Address: ONE STAMFORD FORUM, STAMFORD, CT

[Please Type] 06904

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name:

VINCENT GALLOGLY

Title:

COUNSEL FOR GTE COMMUNICATION SYSTEMS CORPORATION

Address:

ONE STAMFORD FORUM, STAMFORD, CT 06904

Tel. Number:

203/965-3080

[Please Type]

* SUCCESSOR IN INTEREST IN THIS MATTER TO ITS FORMER MICROCIRCUITS DIVISION AND TO EMM SEMI, INC.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

IX.
FOR GREEN GENIE NURSERIES COMPANY, INC.

Date: June 20, 1994 Name: Thomas W. Barton
Title: PRESIDENT
Address: 4748 E INDIAN SCHOOL RD
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party: (FOR THIS LITIGATION ONLY)

Name: Andrew F. Marshall
Title: Attorney
Address: 1144 East Jefferson - Phoenix, AZ 85034
Tel. Number: (602) 254-6044
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Gowan COMPANY, INC.

Date: July 7, 1994 Name: [Signature]
Title: President
Address: P.O. Box 5569 Yuma, AZ 85366-5569
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Larry W. Suci
Title: Attorney for Gowan Company
Address: 1763 W. 24th St., Suite 200 Yuma, AZ 85364
Tel. Number: (602) 726-6892
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Gould Inc.
(Including Gould Foil Division)

Date: 6/28/94

Name: 

Title: Associate Counsel

Address: 35129 Curtis Blvd., Eastlake, OH 44095
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Lawrence W. Mitchell

Title: Associate Counsel

Address: 35129 Curtis Blvd., Eastlake, OH 44095

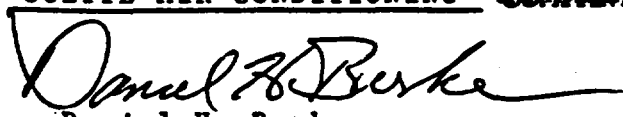
Tel. Number: (216) 953-5142

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR GOETTL AIR CONDITIONING ~~COMPANY~~, INC.

Date: 6/20/94


Name: Daniel H. Burke

Title: President

Address: 3830 E. Wier Ave., Phoenix, AZ. 85040
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Robert L. Dysart

Title: For Bess & Dysart, P.C.

Address: 7210 North 16th Street, Phoenix, AZ. 85020

Tel. Number: (602) 331-8600


[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR GECI Liquidating Corp., on behalf of
Gilbert Engineering Co., Inc. a Delaware
corp.

BY: Transatron Electronic Trust

Date: 7/28/94

x 
Name: David Bakalar, as Trustee
Title: Transatron Electronic Trust
Address: 35 Lapland Road, Chestnut Hill, Ma.
02167

Agent authorized to Accept Service on Behalf of Above-signed
Party:

Name: Robert S. Sanoff
Title: Foley, Hoag & Eliot
Address: One Post Office Square, Boston, Ma. 02109
Tel. Number: (617) 482-1390

Hassayampa Landfill Consent Decree

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR FRED'S PUMPING COMPANY, INC.

Date: July 7, 1994 Name: *Fred Rader*
Title: President
Address: 5611 North 16th St., Phx, AZ 85016
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: _____
Title: _____
Address: _____
Tel. Number: _____
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR FRAZEE PAINT & WALLCOVERING COMPANY, INC.



Date: 6.22.94

Name: Bart Overocker

Title: President

Address: P.O. Box 2471, San Diego, CA 92112

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: _____

Title: _____

Address: _____

Tel. Number: _____

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR FRAZEE INDUSTRIES COMPANY, INC.

Re: Deer-O-Paints & Chemicals

Date: 6.22.94


Name: Bart Overocker

Title: President

Address: P.O. Box 2471, San Diego, CA 92112
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: _____
Title: _____
Address: _____
Tel. Number: _____
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR FARMER'S AGDUSTRIES, INC.

Date:

July 7, 1994

W. A. Harrell

WILLIAM A. HARRELL

Law Offices of William A. Harrell, P.C.
850 North Second Avenue
Phoenix, AZ 85003

Agent authorized to accept service on behalf of above-signed party.

NAME: William A. Harrell, Esq.
TITLE: Attorney for Farmer's Agdustries Inc.
ADDRESS: 850 North Second Avenue, Phoenix, AZ 85003
TELEPHONE NUMBER: (602) 258-1899

Hassayampa Landfill Consent Decree

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR F & B Mfg. Co., an Illinois corporation

Date: June 29, 1994

Name: 

Title: Fred H. Vansice, Executive Vice President

Address: F & B Mfg. Co., 5480 N. Northwest Highway

[Please Type]

Chicago, IL 60630

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: James A. Moehling

Title: Attorney for F & B Mfg. Co.

Address: Sears Tower - 85th Floor, Chicago, IL 60606

Tel. Number: (312) 876-0200

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Eason & Waller COMPANY, INC.

Date: 6-10-94

Name: Al Gochoel

Title: V.P. General Manager

Address: 2010 N. 22nd Ave, Phoenix, AZ 85009

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: SAME AS ABOVE

Title: _____

Address: _____

Tel. Number: _____

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Dan J. Obel COMPANY, INC.

Date: 7-7-94 Name: DAN J. OBELE
Title: _____
Address: 3443 S. 36TH ST. PHOENIX, AZ
[Please Type] 85040

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: _____
Title: _____
Address: _____
Tel. Number: _____
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

David G. Curry

FOR Curry/Nel, Ltd. Partnership; David G. Curry & Lloyd G. Nel, indiv.

Date: 8/12/94 Name: David G. Curry
Title: NA
Address: P.O. Box 235 Columbus, NC 28722
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Same as above
Title: _____
Address: _____
Tel. Number: _____
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.


FOR CONTINENTAL CIRCUITS CORP. ~~CONFIDENTIAL~~

Date: July 8, 1994 Name: Michael O. Flatt
Title: President & CEO
Address: 3502 E. Roeser Road, Phoenix, AZ 85040
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Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Robert F. Lutz
Title: Chairman of the Board
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Tel. Number: 602/268-3461
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Churick Auto Painting COMPANY, INC.
dba MAAPO Auto Painting & Bodyworks

Date: 7-13-94

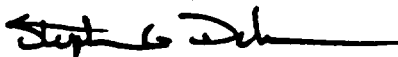
Name: 
Title: Richard D. Santomeno, President
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Agent Authorized to Accept Service on Behalf of Above-signed Party:

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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Chevron U.S.A. Inc. ~~COMPANY, INC.~~




Date: July 7, 1994 Name: Stephen G. Dehmer
Title: Senior Superfund Specialist
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Name: Stephen G. Dehmer
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Tel. Number: (510) 242-4230
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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Chemical Waste Management, COMPANY, INC.

Date: August 5, 1994 Name: John T. Van Gessel 
Title: Senior Counsel
Address: 3003 Butterfield Road, Oak Brook, IL 60521
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Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: John T. Van Gessel
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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

Champion International Corporation as successor by
FOR merger to St. Regis Corp. COMPANY, INC.
as a De Minimis Settling Defendant

Date: 7/8/94

Name: Melinda S. Kemp Melinda S. Kemp
Title: Environmental Projects Administrator
Address: One Champion Plaza Stamford, CT 06921
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

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Title: Environmental Projects Administrator
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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR BUD WEST COMPANY, INC.

Date: 6/13/94


Name: STEPHEN HAAS

Title: EXECUTIVE VICE PRESIDENT

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[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: STEPHEN HAAS

Title: EXECUTIVE VICE PRESIDENT

Address: 7733 W. Olive Ave Peoria Az 85345

Tel. Number: (602) 979-0300 xt. 3

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR BIO-LAB, INC. COMPANY, INC.

Date: 6/24/94

Name: Marshall Bloom MARSHALL BLOOM

Title: C.E.O.

Address: P.O. BOX 1489, DECATUR, GA 30031

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: _____

Title: _____

Address: _____

Tel. Number: _____

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR BILLY WAYNE AUSTIN formerly d/b/a
Bill's Grading

Date: August 4, 1994

Name: Billy Wayne Austin

Title: _____

Address: c/o Mr. Dan Franklin

Gilbert Engineering Co., Inc.

5310 West Camelback Road

Glendale, Arizona 85301-7597

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Agent Authorized to Accept Service on Behalf of Above-signed
Party:

Name: David G. Beauchamp, Esq.

Title: Attorney at Law

Address: Quarles & Brady

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Phoenix, Arizona 85012

Tel. Number: (602) 230-5582

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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR BERSET CESSPOOL SERVICE ~~COMPANYXXINEX~~

Date: (7/14/94) Name: 
Title: OWNER
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Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: KENNETH A. HODSON
Title: Attorney
Address: 3300 North Central, Suite 1800, Phoenix, AZ 85012
Tel. Number: (602) 248-7624
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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR BECHTEL POWER CORPORATION ~~COMPANY~~xxxINCxx

TW Habermas

Date: July 1, 1994 Name: T. W. Habermas
Title: Vice President
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Agent Authorized to Accept Service on Behalf of Above-signed Party:

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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

BEAN AND COMPANY, INC.

By Nolan B. Corley, Jr.
NOLAN B. CORLEY, JR.
President
P.O. Box 40
Palo Verde, Arizona 85343

DATE: 7/13/94

Agent Authorized to Accept Service on Behalf of Above-signed Party:

William T. Keane, Esq.
William T. Keane. P.C.
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Phoenix, AZ 85004

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR Atlantic Richfield C COMPANY, INC.

Date: 7/5/94 Name: C R Knowles NBS
Title: Manager, Environmental Remediation
Address: 515 S. Flower St. Los Angeles, CA 90071
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

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Title: _____
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Tel. Number: (602) 277-4792
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.


ASHLAND CHEMICAL COMPANY, Division
FOR Ashland Oil, Inc. ~~XXXXXXXXXX~~

Date: June 10, 1994 Name: Scotty B. Patrick
Title: Group Vice President
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[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Stephen W. Leermakers
Title: Senior Litigation Attorney
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Tel. Number: 614/889-4261
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR ARIZONA TANK LINES ~~XXXXXXXXXX~~ INC.

Date: 6/14/94 Name: *Kenneth L. Kessler*
Title: Director of Legal Services
Address P.O. Box 855, Des Moines, IA 50304
[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Kenneth L. Kessler
Title: Director of Legal Services
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[Please Type]

APPENDIX A

**Record Of Decision For The Hassayampa
Landfill Superfund Site Maricopa County,
Arizona**

**RECORD OF DECISION
HASSAYAMPA LANDFILL
SUPERFUND SITE**

August 1992

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I. DECLARATION

A. SITE NAME AND LOCATION

This Record of Decision (ROD) is written for the Massayampa Landfill Superfund Site (the Massayampa Landfill Site, the Site), which is located in Maricopa County, Arizona, approximately 40 miles west of Phoenix, Arizona. For purposes of this ROD, the Site shall be defined as the 10-acre area of the 47-acre municipal landfill where hazardous wastes are known to have been disposed, as well as any areas where site-related contaminants have come to be located.

B. STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedial action for contaminated soil and groundwater at the Massayampa Landfill Site, chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA), and, to the extent practicable, the National Oil and Hazardous Substances Contingency Plan (NCP). This decision document is based on the Administrative Record for the Site, the index of which is attached as Appendix C.

C. ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment.

D. DESCRIPTION OF THE SELECTED REMEDY

The selected remedy for the Massayampa Landfill Site includes remediation of groundwater and vadose zone (including soil and soil vapor above the water table) contamination. The groundwater component of the remedy includes extraction of contaminated groundwater, treatment of the water using air stripping technology (vapor phase carbon adsorption will be performed as necessary to meet Federal, State, and County regulations pertaining to air emissions), reinjection of the treated water, and continued groundwater monitoring to measure the effectiveness of the remedy. Federal Maximum Contaminant Levels (MCLs) have been chosen as groundwater cleanup standards. For those contaminants detected on Site for which no MCLs exist, Health-Based Guidance Levels proposed by the State of Arizona have been selected as groundwater cleanup standards. The groundwater cleanup standards shall be met at all points within the contaminated aquifer.

The vadose zone component of the remedy includes capping the 10-acre Hazardous Waste Area of the landfill using a cap that complies with the substantive capping and maintenance requirements for Resource Conservation and Recovery Act (RCRA) Interim Status facilities as described in 40 CFR Parts 264.110 and 265.117, and as described in the "EPA Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments." In addition, the vadose zone component of the selected remedy includes performing soil vapor extraction at all locations at the site where soil vapor levels exceed cleanup standards, treating the soil vapor using vapor phase carbon adsorption or catalytic oxidation technology (to be determined during remedial design), and implementing access and deed restrictions. The soil vapor cleanup standards shall be levels that are protective of groundwater quality (meaning that the migration of contaminants from the vadose zone to groundwater will not result in groundwater contamination that exceeds the groundwater cleanup standards). The soil vapor cleanup standards will be determined through site-specific analytical modeling conducted during the remedial design stage. Additional investigation will also be performed during the remedial design stage in order to determine the extent of groundwater and soil vapor contamination.

B. STATUTORY DETERMINATIONS

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. This remedy uses permanent solutions and alternative treatment technologies to the maximum extent practicable, and satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element.

Because the selected remedial action allows contaminated soil to remain onsite in excess of health-based levels, a review will be conducted within five years of commencement of remedial actions to ensure that the remedy continues to provide adequate protection of human health and the environment.

Daniel W. McGovern
Daniel W. McGovern
Regional Administrator
U.S. EPA Region 9

8.6.92
Date

IX. DECISION SUMMARY

A. SITE NAME, LOCATION AND DESCRIPTION

1. LOCATION

The Massayampa Landfill Site is located in a rural desert area approximately 40 miles west of Phoenix, Arizona. The Site is approximately three-fourths of a mile west of the Massayampa River, one and a half miles northwest of the town of Massayampa, three miles north of the town of Arlington, and five miles east of the Palo Verde Nuclear Generating Station. Figure 1 depicts the location of the Massayampa Landfill Site.

The Massayampa Landfill occupies a fenced 47-acre area located on a 77-acre parcel owned by Maricopa County. The hazardous waste area (HWA) of the landfill occupies a 10-acre area within the northeast section of the landfill. For purposes of this RUI, the Site shall be defined as the 10-acre area of the landfill where hazardous wastes are known to have been disposed, as well as any areas where site-related contaminants have come to be located.

2. LAND USE

The non-hazardous portion of the Massayampa Landfill is still operated as a municipal landfill. Maricopa County personnel have indicated that the expected life of the non-hazardous portion of the landfill at the current rate of use is an additional ten years. The HWA is fenced and is no longer being used for landfill purposes. Approximately one-sixth of the land surrounding the landfill is cultivated, while the remaining areas are desert. Most of the cultivated land is located east of the Massayampa River and south of the Arlington Mesa. The immediate vicinity of the landfill is sparsely vegetated. Vegetation consists mainly of creosote bush and salt bush.

3. POPULATION

Presently, the nearest residents live approximately 1,000 meters south of the HWA. Communities located within a three mile radius of the landfill include Massayampa and Arlington. The combined 1985 census population for these two communities was 1,100 people. A growth rate of one to two percent was used to calculate a current population of 1,120 people. According to the Maricopa County Human Resources Department, a population growth of 10 to 15 percent is expected to occur over the next 20 years within a five mile radius of the Site. Several workers are employed at the non-hazardous portion of the Massayampa Landfill.

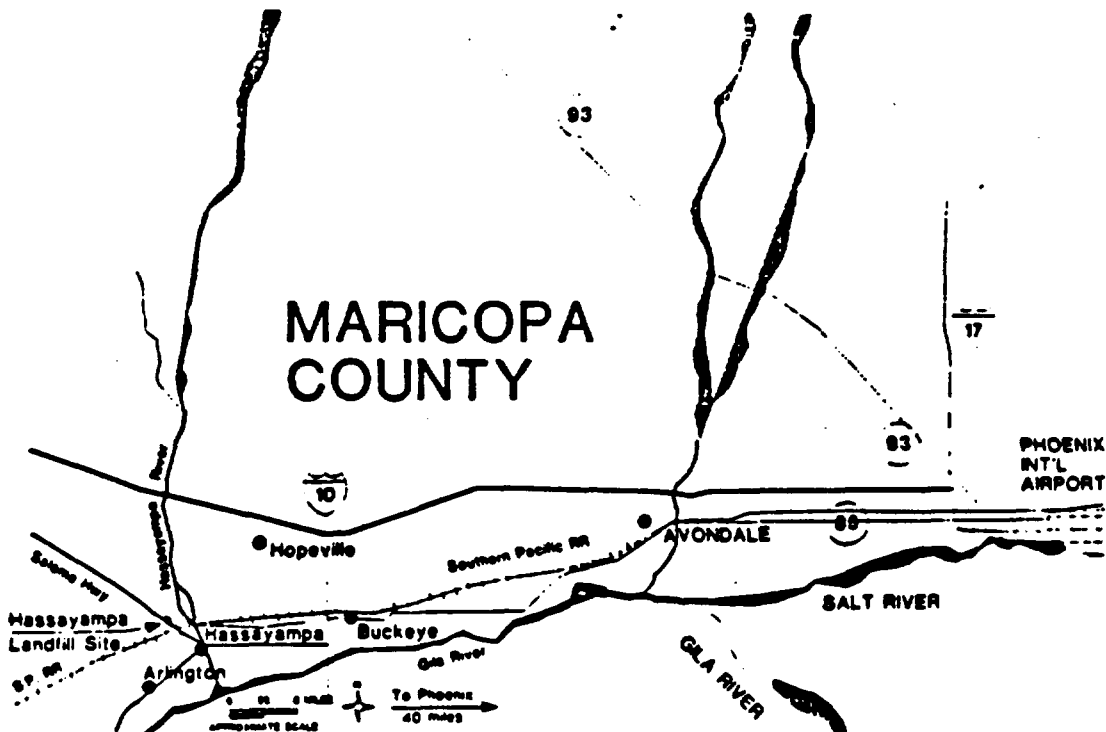


FIGURE 1

4. CLIMATE

The site is characterized by a dry desert climate. The average precipitation at the Buckeye meteorological station (about nine miles to the east) was 7.08 inches per year, most of which occurred during a few days each year. Precipitation of 0.10 inches or more occurs on an average of 20 days per year. Records from the Buckeye station indicate the average daily maximum temperature is approximately 87° F, and the average daily minimum temperature is approximately 52° F. The average pan evaporation measured at the Salt River Valley station in Mesa (about 54 miles to the east) was about 106 inches per year.

5. TOPOGRAPHY

The site is located on the broad southward-sloping alluvial plain of the Hassayampa River basin. The basin is bounded on the east by the White Tank Mountains, on the south by the Buckeye Hills, and on the west by the Palo Verde Hills. The surface of the alluvial plain occupied by the site is generally flat; however, approximately one half mile south of the site, the plain is broken by the Arlington Mesa. The mesa is currently overlain by a graded soil cover. The altitude of the land surface at the mesa is approximately 910 to 915 feet above mean sea level.

6. SURFACE WATER

The Hassayampa Landfill site lies within the Hassayampa River drainage area, but outside of the 100-year floodplain of the river. The site is located about three-quarters of a mile west of the Hassayampa River, which flows to the south. The site is near a north-trending surface water drainage divide between the Hassayampa River and an unnamed wash to the west, which is a tributary of the Lake Wash. The Hassayampa River and the Lake Wash are ephemeral desert washes that are tributaries of the westward flowing Gila River. Presently the Gila River is perennial at its confluence with the Hassayampa River.

7. GROUNDWATER

Regional hydrogeologic units in the area of the site include in order of increasing depth: Recent alluvial deposits, basin-fill deposits, and the bedrock complex. Groundwater levels in the vicinity of the site generally lie below the base of the Recent alluvial deposits. However, where saturated, the Recent alluvial deposits may yield moderate quantities of groundwater to wells. The thickness of the basin-fill deposits appears to exceed 1,200 feet in the vicinity of the landfill. The basin-fill deposits comprise the principal source of groundwater to wells in the area of the site, and are generally referred to as the regional aquifer. Within a three mile radius of the site, 349 groundwater wells have been identified, 172 of which potentially service

individual residences. These wells yield groundwater from the regional basin-fill deposits aquifer. The reported depths range from 4 feet below land surface to 250 feet below land surface. The nearest domestic well is about 2,500 feet south of the Site.

The basin-fill deposits have been classified in order of increasing depth into the Upper, Middle, and Lower Alluvium units. The Upper Alluvium unit beneath the Site was the target of the hydrogeologic investigations conducted at the Site. For purposes of the Remedial Investigation (RI), the Upper Alluvium unit was subdivided in order of increasing depth into the upper alluvial deposits unit, basaltic lava-flow unit, Unit A, and Unit B (Figure 2).

The upper alluvial deposits unit consists of a coarse-grained part and a fine-grained part. The average depth to the base of the coarse-grained part is about 14 feet; while the average depth to the base of the fine-grained part is about 58 feet. The basaltic lava-flow unit consists of vesicular, basaltic rock and is part of the Arlington Mesa basalt flows. This unit appears to thin and dip toward the north. The presence of contaminated groundwater in Unit A indicates that the basaltic lava-flow unit is not an impermeable unit.

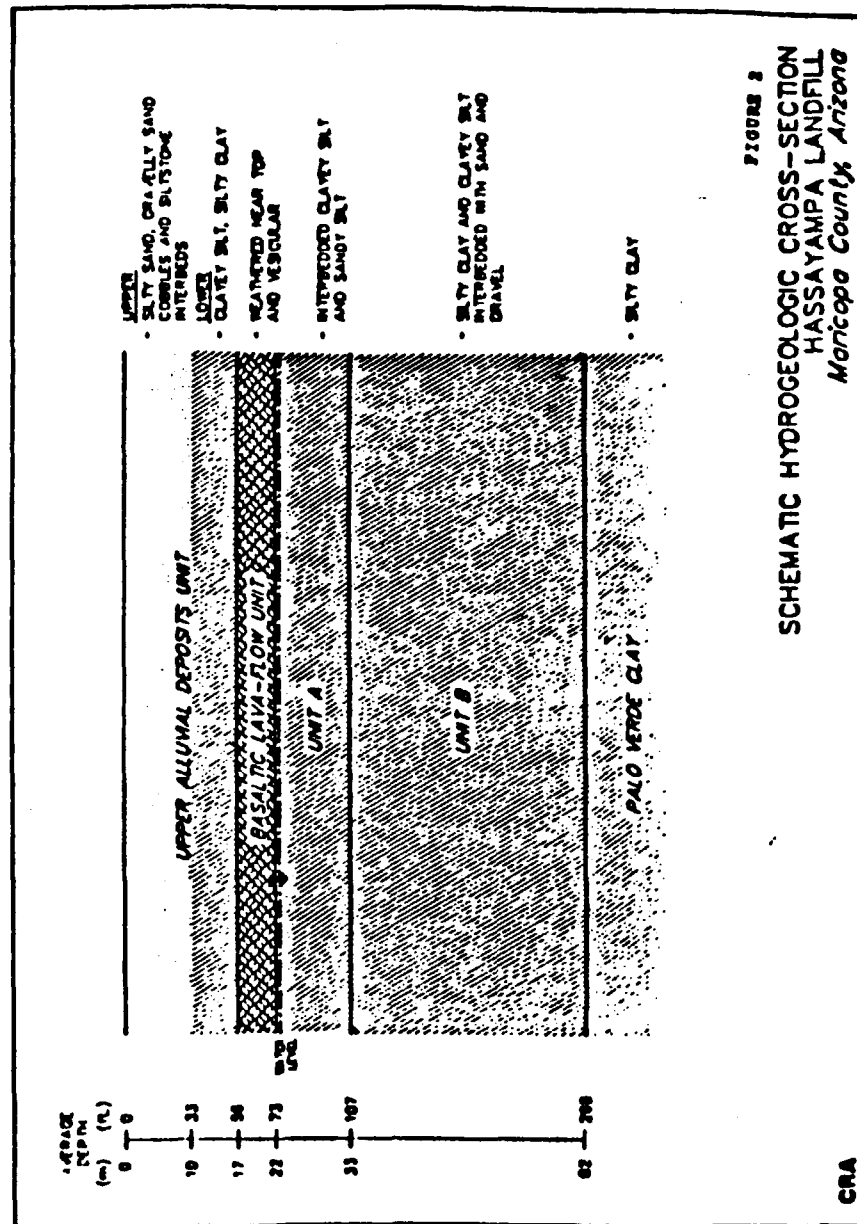
The part of the Upper Alluvium unit from the base of the basaltic lava-flow unit to the top of the Middle Alluvium unit is the uppermost water-bearing part of the regional aquifer, and has been subdivided into Units A and B. There is no confining unit separating Units A and B, and Units A and B are considered to be water-bearing zones within the same aquifer. Unit A comprises the uppermost fine-grained water-bearing unit, while Unit B is the uppermost coarse-grained water-bearing unit. Unit B is underlain by a silty clay. This clay has tentatively been classified as the Palo Verde Clay, and appears to comprise the basal confining unit for Unit B.

The direction of groundwater flow in Units A and B is generally to the south, although local variations in the flow direction may occur. The average depth to the water table beneath the Site is 71 feet. Water level contours and potentiometric contours for Units A and B are presented in Figures 3 and 4.

B. SITE HISTORY AND ENFORCEMENT ACTIVITIES

1. HISTORICAL ACTIVITIES

The Haysayampa Landfill is presently owned by Maricopa County and is operated by the Maricopa County Landfill Department. Maricopa County had signed a 20-year lease on the 77-acre parcel from the U.S. Federal Aviation Agency, and after the lease expired in 1961 the parcel was transferred to Maricopa County by quitclaim deed.



Water-level contours for Unit A

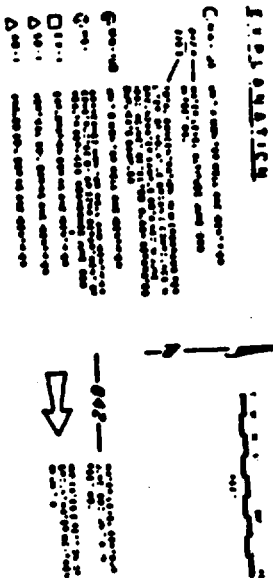
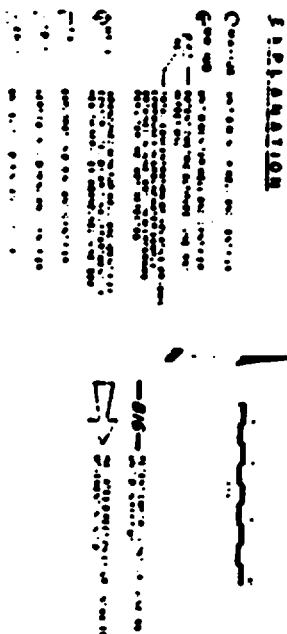


Figure 4
c Contour



On February 1st, 1979, ADMS prohibited disposal of industrial waste at the City of Phoenix landfill. Because no alternative waste disposal sites were available in Arizona, AIMS characterized the situation as an "extreme emergency." Consequently, AIMS requested that Maricopa County accept hazardous waste at the Massayampa landfill for a 30-day period beginning on April 20, 1979. After the initial 30-day period, several time extensions for hazardous waste disposal at the landfill were granted. On October 29, 1980, the disposal of hazardous waste at the Massayampa landfill was prohibited.

During the 18-month period from April 20, 1979 to October 28, 1980, disposal of hazardous waste at the landfill was conducted under a manifest program operated by ADHS. An inventory performed by ADHS indicated that a wide range of hazardous waste—comprising of up to 3.28 million gallons of liquid waste and up to 4,170 tons of solid waste—were approved by ADHS for disposal at the landfill. However, an inventory conducted by consultants for the potentially responsible parties (PRPs), indicated that the amount of hazardous waste approved by ADHS for disposal consisted of up to 3.44 million gallons of liquid waste and up to 3,710 tons of solid waste.

The hazardous waste area was composed of several unlined pits that were designated for disposal of hazardous or nonhazardous wastes. Pits 1, 2, 3 (including 3a, 3b, and 3c), 4 (including 4a, 4b, and 4c), and the Special Pits were designated for disposal of hazardous waste (Figure 5). The waste types varied greatly and included heavy metals, solvents, petroleum distillates, oil, pesticides, acids, and bases. Specific pits were designated to receive certain types of waste, but it is not clear that this practice was always followed. The designated waste types, the actual received waste types, and the quantities for each pit, as reported in the RI report, are presented in Table 1.

pits A and B were designated for the disposal of non-hazardous wastes. Although Pit A was intended for cement and hydraulic tank water, contents of other substances (solidified grey sludge, black oily liquid, and pesticide containers) were also disposed (Ecology and Environment, 1991). The contents of Pit B were not well documented. It should be noted that the wastes disposed in pits A and B were

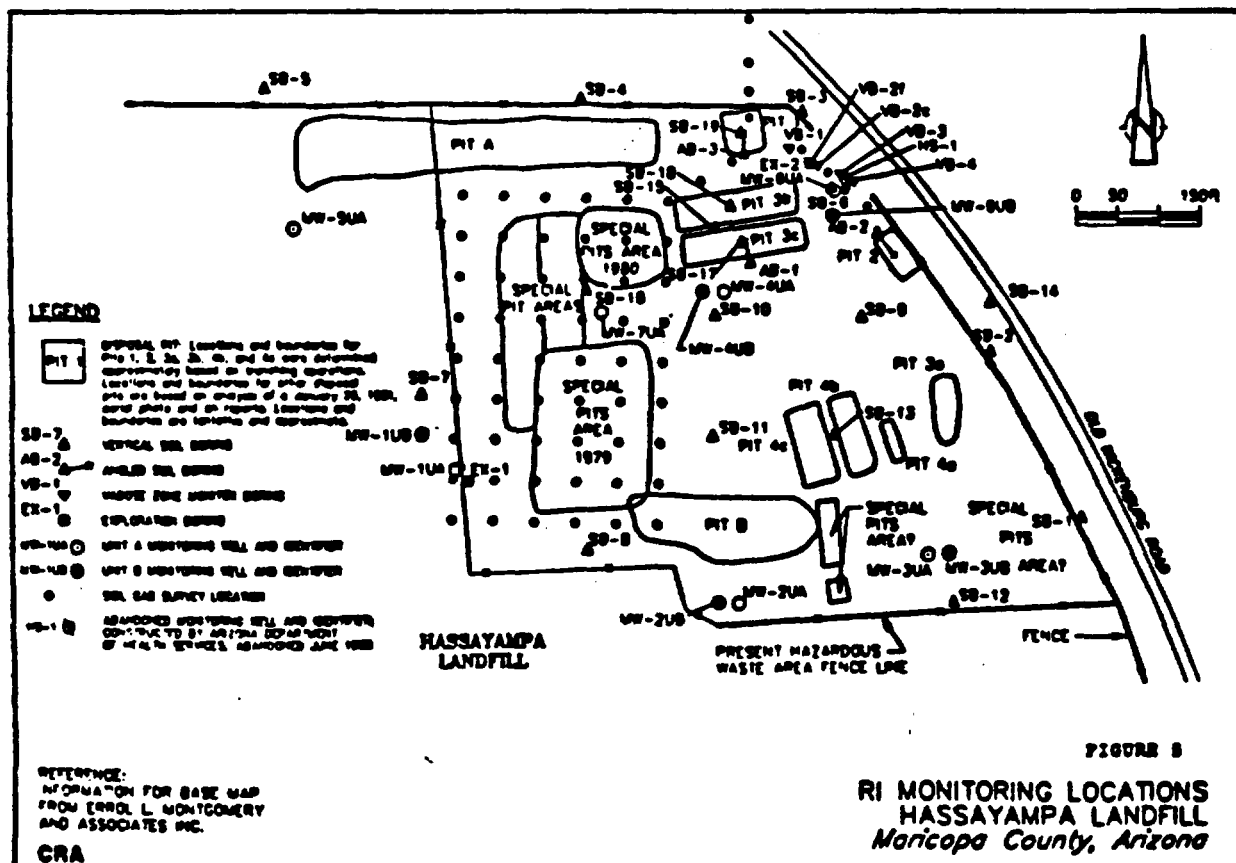


TABLE 1
SUMMARY OF WASTES APPROVED FOR INCINERATION
NASSAYAMPA FEASIBILITY STUDY

Waste Type Designated	Quantity Reported in the Liquid Waste Evaluation Report (ADA AND MDA, 1991)		Quantity Reported by Arizona Department of Health Services (ADA)	
	Liquid Waste (gallons)	Solid Waste (tons)	Liquid Waste (gallons)	Solid Waste (tons)
Special				
Flammable	174,120	2,123	134,578	30.64
Organic & Oil	37,375	5.0	36,905	0
Acid & Acid Sludge	110,030	0.1	12,567	0.1
Alkaline & Metallic	1,365,001	7.3	1,365,001	34
Sludge	147,447	1.69	1,295,003	29.16
Residues & Alkaline	2,415,039	2.714	2,714,000	4.197
Total				

The waste amounts are determined from an analysis of ADHS approved waste manifests. The difference between these estimates is explained in the Liquid Waste Evaluation Report (ADA and CBA, 1991). These differences are attributed to the different solid waste volume reported by ADHS. This solid waste difference, if converted to liquid waste, would reduce the difference in liquid volumes to three percent.

and conducted under the permit system.

2. SITE DISCOVERY

In 1981, under the Resource Conservation and Recovery Act (RCRA) open dump inventory program, ADHS installed three groundwater monitoring wells at the Nassayampa Landfill. Groundwater sampling collected from one of these wells was found to be contaminated with volatile organic compounds (VOCs). Also in 1981, privately and Environment prepared a site inspection report for the U.S. Environmental Protection Agency (EPA). In 1984, ADHS completed site inspections of the landfill. The site was added to EPA National Priorities List in July 1987.

3. SITE INVESTIGATIONS

The major preliminary investigation reports prepared for the site are summarized below:

- Hydrogeologic Conditions and Waste Disposal at the Nassayampa, Casa Grande, and Roosevelt Landfills, Arizona (Schmidt and Scott, 1977);
- The Nassayampa Landfill Hazardous Waste Disposal Site: Initial Analysis (April 20, 1979 - October 20, 1980) (ADHS, 1980);
- Site Inspection Report on Nassayampa Landfill, Maricopa County, Arizona (Ecology and Environment, 1981);
- Geotechnical Evaluation of the Influence of Nassayampa Landfill Hazardous Wastes on the Pecos Conveyance Pipeline (Kreco Western, 1982);
- Open Dump Inventory of Nassayampa Landfill, Groundwater Criterion (ADHS, 1982);
- Nassayampa Landfill Site Inspection Report (ADHS, 1983);
- Results of Preliminary Hydrogeological Investigation, Nassayampa Landfill, Maricopa County, Arizona (Montgomery and Associates, 1987).

The Remedial Investigation for the site was conducted by the PWTs, with oversight provided by EPA and the Arizona Department of Environmental Quality (ADEQ). The Remedial Investigation was initiated in 1988, and the Remedial Investigation report was approved by EPA on April 4, 1991. A Risk Assessment report was completed by PWTs on September 12, 1991. The Feasibility Study report, which was completed by the PWTs, was approved by EPA on May 20, 1992.

4. ENFORCEMENT ACTIVITIES

Significant enforcement activities conducted at the Site are summarized in Table 2.

C. HIGHLIGHTS OF COMMUNITY PARTICIPATION

As described below, EPA has satisfied the public participation requirements of CERCLA Section 113(k)(2)(B) and 117. EPA currently maintains Massapequa Landfill Site information repositories at the Nuckeye Library in Nuckeye, Arizona, and at the EPA Region 9 office in San Francisco. The EPA Region 9 office and the Nuckeye Library maintain copies of the entire Administrative Record File. EPA also maintains a computerized Massapequa Landfill Site mailing list, currently with over 400 addressees. Furthermore, EPA conducted a public meeting and accepted comments on the Proposed Plan and RI/FS. EPA has prepared a Responsiveness Summary (Appendix B) which summarizes EPA's responses to public comments received on the RI/FS and Proposed Plan.

A chronological list of community relations activities conducted by EPA for the Massapequa Landfill Site is provided in Table 3.

D. SCOPE AND ROLE OF THIS DECISION DOCUMENT WITHIN THE SITE STRATEGY

This ROD selects remedial measures for vadose zone contamination (including soil and soil vapor above the water table) and groundwater contamination at the Massapequa Landfill Site. The remedial measures selected under this ROD constitute a final remedy for the Site.

Sufficient information currently exists to select a remedy for the Site. However, additional investigation will be conducted during the remedial design phase in order to define the extent of groundwater and soil vapor contamination. This additional investigation is not expected to affect the remedy selected for the Site. As necessary, the remedial design will be modified to reflect the additional data collected.

E. SUMMARY OF SITE CHARACTERISTICS

1. CONTAMINANTS OF CONCERN

Waste and Soil Contamination
Site-related contaminants have been detected in soil, soil vapor, groundwater, and air at the Site.

Soil borings drilled through the disposal pit indicate that the base of this pit (which have since been filled) range in depth from 6 to 20 feet below land surface. (unclassified, moist)

TABLE 2
ENFORCEMENT ACTIVITIES - MASSAPEQUA LANDFILL SITE

DATE	ACTIVITY
1/81	EPA completed Potentially Responsible Party (PRP) Search
2/2/81	General Notice/Information Request letters sent to 8 PRPs
4/1/81	General Notice/Information Request letters sent to 18 PRPs
4/1/81	General Notice/Information Request letters sent to 20 PRPs
4/24/81	Special Notice letters sent to all previously identified PRPs
1/11/82	Remedial Investigation/Possibility (RI/PS) Contract let by EPA and PRPs
11/19/81	General Notice letter sent to one previously unidentified PRP

TABLE 3
COMMUNITY RELATIONS ACTIVITIES
MASSAPEQUA LANDFILL SITE

DATE	ACTIVITY
1/81	Community Relations Plan for the site was completed
1/82	EPA issued a Fact Sheet summarizing results of the Remedial Investigation and Risk Assessment and outlining future site activities.
4/24/82	The Administrative Record for the Site was sent to the Nuckeye Library.
4/1/82	A public notice was published in the Nuckeye Valley News announcing the availability of the Proposed Plan and the Administrative Record and announcing the dates of the public comment period and public meeting.
4/18/82	EPA issued the Proposed Plan Fact Sheet which explained the results of the RI/PS, described EPA's preferred plan for cleaning up the Site, and announced the dates of the public comment period and public meeting.
4/1/82-4/30/82	Public comment period for the RI/PS and Proposed Plan
4/11/82	EPA conducted a public meeting during which the Proposed Plan was presented and comments were accepted.

TABLE 4

Comparison of Waste and Soil Concentrations for Pit 1 to Health-Based Guidance Levels

CHEMICAL	PIT 1-MAXIMUM WASTE CONCEN- TRATION (PPM)	PIT 1-MAXIMUM SOIL CONCEN- TRATION (PPM)	HEALTH-BASED GUIDANCE LEVEL (PPM)
Benzene	80	1	--
o,p'-dichlorobenzene	97	22	1,500
1,1-dichloroethane	80	47	--
1,1-dichlorobenzene	30	1620	140
dichloromethane	16	990	94
1,2-dichloropropane	80	297	12
dimethylbenzenes (total xylenes)	77	350	200,000
acetone	80	2540	14,000
ethylbenzene	80	57	14,000
toluene	25	510	20,000
methyl ethyl ketone	80	405	3,400
tetrachloroethene	541	600	14
1,1,1-trichloroethane	914	23,000	4,000
1,1,2-trichloroethane	13	20	60
trichloroethene	107	390	64
trichlorofluoroethane	20	12,000	4,200,000

colored material encountered within the pit is referred to as waste material. Waste samples were collected from Pit 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. No waste or soil samples were collected from the Special Pit area due to the scattered nature of these pits. Instead soil vapor sampling was performed in the Special Pit area. Vacuum zone monitoring borings were also installed at several locations and soil vapor samples were obtained. Figure 5 shows the location of soil borings, vacuum zone monitoring borings, and soil vapor sampling taken at the site.

Volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) have been detected in waste and soil within the hazardous waste area. The concentrations of contaminants in waste and soil were compared with Health-Based Guidance Levels (HBGLs) for surface soil developed by AHS. The HBGLs are derived from calculations based on ingestion of soil. The HBGLs have not been promulgated. The only pit which contains waste contaminants at concentrations in excess of their HBGLs in Pit 1, which contains tetrachloroethene and trichloroethene at levels in excess of their respective HBGLs (Table 4). Similarly, the only pit which is underlain by soil contaminants at concentrations in excess of their HBGLs in Pit 1, which has 1,1-dichloroethene, 1,1,1-dichloroethane, 1,2-dichloropropane, tetrachloroethene, 1,1,1-trichloroethane, and trichloroethene present at levels in excess of their HBGLs (Table 4). It should be noted that the highest level of soil contamination was detected in the deepest sample taken beneath Pit 1 (about 60 feet). This sample was taken immediately above the basaltic lava-flow unit.

Waste and soil contaminant concentrations were also compared to Toxicity Characteristic Leaching Procedure (TCLP) levels and Extraction Procedure Toxicity (EP Tox) levels. The TCLP test was designed to determine the mobility of organic and inorganic analytes, and is one of the criteria used to determine whether a material is a hazardous waste. The EP Tox test preceded the TCLP test and has since been replaced by the TCLP test. The TCLP level for organics were exceeded only by waste from Pit 1, where levels of 1,1-dichloroethene, trichloroethene, and tetrachloroethene exceeded the TCLP levels. All inorganic waste and soil concentrations were below the TCLP and EP Tox levels with the exception of two compounds. Chromium was detected in waste from Pit 2 at a concentration of 9.9 mg/l (compared to EP Tox level of 5 mg/l) and lead was detected in waste from Pit 1 at a concentration of 11.5 mg/l (compared to EP Tox level of 5 mg/l).

Soil Vapor Contamination

Based on the results of soil vapor surveys, several areas of soil vapor contamination have been identified (Figure 6). The soil

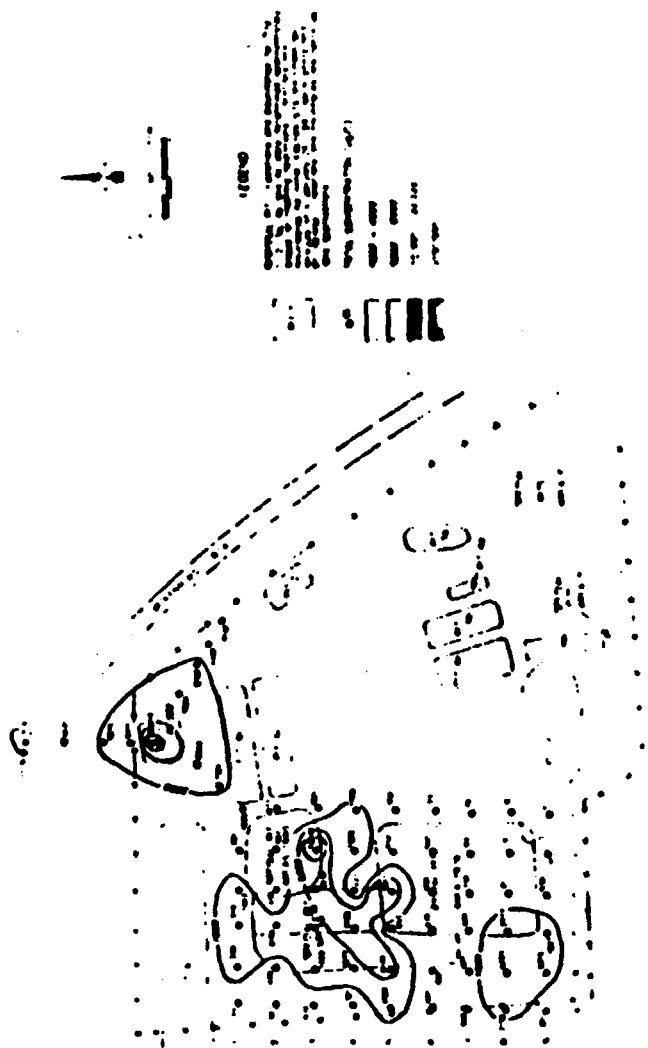


FIGURE 6
TOTAL SOIL GAS CONCENTRATIONS
JANUARY 1994
MILWAUKEE COUNTY, WISCONSIN

vapor contaminants consist of volatile organic compounds (VOCs) including 1,1-dichloroethene, tetrachloroethene, 1,1,1-trichloroethane, trichloroethene, and trichlorotrifluoroethane. The area in the vicinity of Pit 1 contains the highest levels of soil vapor contamination. Soil vapor contamination also exists in an area north of Pit 1, extending beyond the boundaries of the IMA. Investigation of the extent of soil vapor contamination north of Pit 1 is ongoing and will continue during the remedial design phase. Elevated levels of soil vapor contamination have also been identified in the central and southwest portions of the Special Pits area.

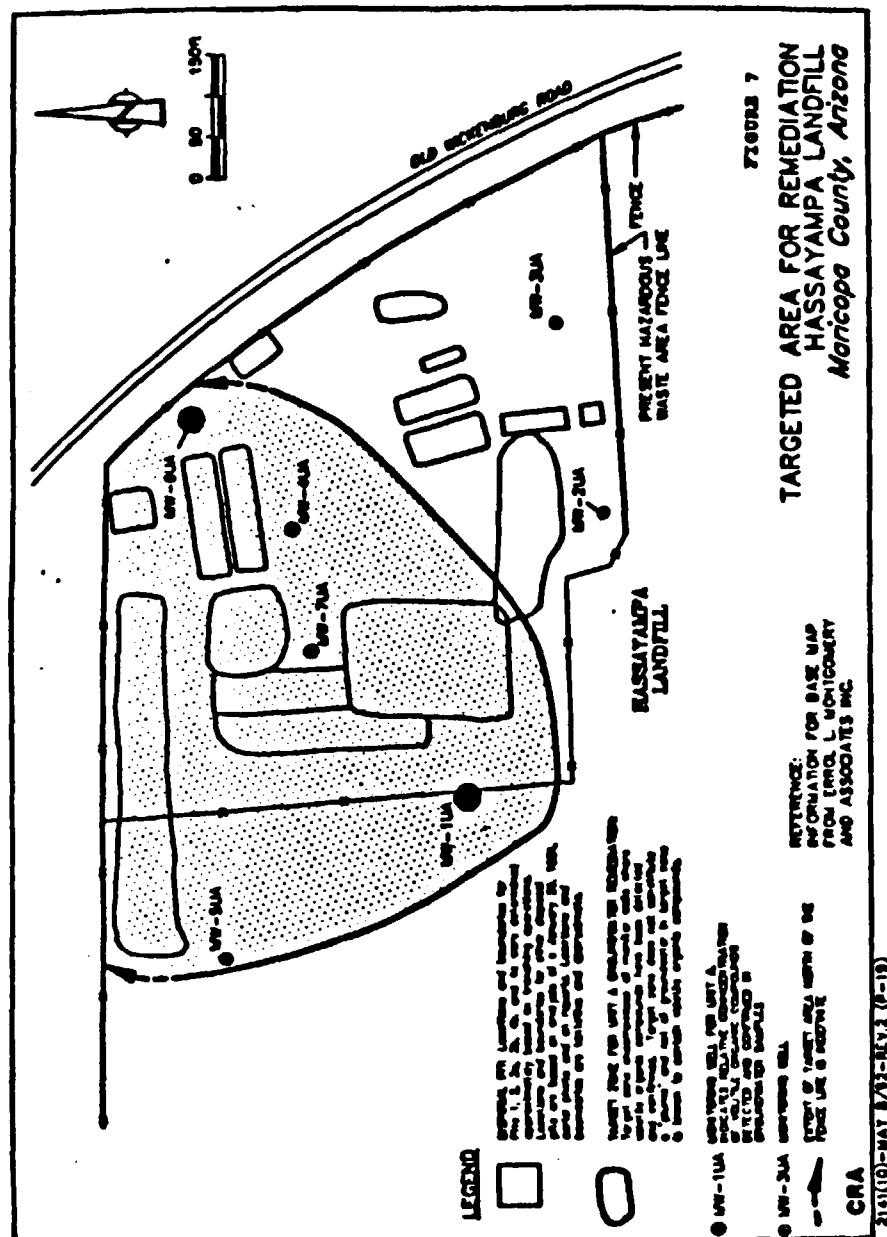
Groundwater

As mentioned previously, two water-bearing units beneath the Site were identified and investigated. The direction of groundwater flow in both units is generally to the south, although local variations in the flow direction may occur. Water level contours and potentiometric contours for Units A and B are presented in Figures 3 and 4, while hydraulic parameters for both units are identified below.

UNIT	GRADIENT	TRANSMISSIVITY gpd/ft	CONDUCTIVITY (gpd/ft ³)
Unit A	0.005	2,000	100
Unit B	0.008	5,000	140

Analytical results for routine constituents indicate that the chemical quality of groundwater in Unit A is consistent with chemical quality of groundwater in shallow aquifers in the landfill area, and that chemical quality of groundwater in Unit B is generally better than that of Unit A.

Volatile organic compounds were detected and confirmed in groundwater samples obtained from Unit A monitor wells MW-1UA, MW-4UA, MW-5UA, MW-6UA, MW-7UA, and from abandoned ADHS well MS-1 (see Figure 3 for well locations). The compounds detected in groundwater from Unit A are presented in Table A-1. Eight of these chemicals have been detected at levels in excess of the selected cleanup standards (see Section 1 - The Selected Remedy for a discussion of cleanup standards). The approximate target zone for groundwater remedial action is presented in Figure 7. It must be stressed that this target zone does not correspond to a groundwater plume, but merely represents a contiguous area within which are located the monitoring wells that have yielded contaminated groundwater from Unit A. The boundaries of the contaminant plume will be further defined during the remedial design phase. To date, no significant contamination has been detected in groundwater from Unit B.



Air

Air sampling using Tenax tubes was conducted to determine the impact of Site conditions on air quality. The results of this sampling event are presented in Table 5. Generally, only relatively low levels of VOCs were detected in the air samples. Exposure by workers to VOCs in air is regulated under the Permissible Exposure Levels (PELs) established by the Occupational Safety and Health Administration (OSHA). The levels of VOCs detected in air at the Site are well below the PELs. Caution should be used in interpreting the sampling results as being representative of annual average conditions, because these results may vary with different meteorological conditions.

Soil cover in the MMA consists of a reddish-brown to brown silty sand which ranges from two to eight feet in thickness. The soil cover appears to effectively retard the release of gas from buried waste materials in the pits.

Surface Sediment

Surface sediment samples were collected from drainage channels in the vicinity of the Site. Low levels of pesticides were detected in several samples; however, pesticides were also detected in a background sample at similar concentrations suggesting that the Site is not the source of this contamination. The presence of these pesticides may be the residual effect of past agricultural activities.

F. SUMMARY OF SITE RISKS

1. HUMAN HEALTH RISKS

The human health assessment consists of several steps including identification of Contaminants of Potential Concern (COPCs), exposure assessment, toxicity assessment, and risk characterization.

a. Chemicals of Potential Concern

For the most part, all chemicals found to be present at the Site during the RI were identified as COPCs in the Risk Assessment report. However, the list of COPCs was narrowed down based on the following criteria:

- Common laboratory contaminants were removed from further evaluation if the Site sample concentrations were less than ten times the maximum amount detected in any blank. For all other chemicals, if the Site contaminant concentrations were less than five times the maximum amount detected in any blank, the chemicals were removed from further evaluation;
- Chemicals that were judged to be present at background

TABLE 6
CHEMICALS OF POTENTIAL CONCERN BY MEDIUM

CHEMICAL OF POTENTIAL CONCERN	MEDIUM OF POTENTIAL CONCERN		
	SOIL	GROUNDWATER	AIR
acetone			X
benzene			X
carbon tetrachloride			X
chloromethane			X
chromium	X		
copper	X		
dibromochloromethane			X
1,2-dichlorobenzene	X		
1,4-dichlorobenzene	X		
1,1-dichloroethane		X	X
1,1-dichloroethene	X	X	X
1,2-dichloroethane		X	
1,2-dichloropropane		X	X
ethylbenzene			X
lead	X		
methylene chloride			X
tetrachloroethene	X	X	X
toluene	X	X	X
1,1,1-trichloroethane	X	X	X
trichloroethene		X	X
Freon 11		X	X
Freon 113	X	X	
xylene	X		X
vinyl chloride		X	

Under the future-use scenario, exposed populations are assumed to be present onsite and domestic wells are assumed to be installed onsite. Potentially exposed populations evaluated included both residential and industrial users. Although residential and industrial use of the landfill seems unlikely in the near future, it is not unrealistic to assume that such use could occur in the more distant future. The following exposure routes were evaluated under the future use scenario for both onsite residential and onsite industrial populations:

- Ingestion of contaminated soil;
- Ingestion of VOCs in groundwater;
- Inhalation of VOCs in groundwater, particularly via showering (residential only); and
- Inhalation of VOCs released from the Site to air.

Exposure intake parameter values were based on standard assumptions and best professional judgement. It should be noted that under all scenarios, it was assumed that the exposed individuals were adults. The only scenario under which children would demonstrate significantly different behavioral patterns which would affect their exposure was onsite residential (ingestion of soil). However, as explained later, this exposure pathway was not evaluated quantitatively.

c. Toxicity Assessment

Both carcinogenic and non-carcinogenic chemicals have been identified in soil and groundwater at the Massayaapa Landfill Site. Reference doses (RfDs) have been developed by EPA for indicating the potential for adverse health effects from exposure to chemicals exhibiting non-carcinogenic effects. The RfD is an estimate, with an uncertainty of approximately an order of magnitude, of a lifetime daily exposure for the entire population (including sensitive individuals) that is expected to be without appreciable risk of deleterious effects. Estimated intake of chemicals from environmental media (e.g. the amount of a chemical ingested from contaminated drinking water) can be compared to RfDs. RfDs are derived from human epidemiological studies or animal studies to which uncertainty factors have been applied (e.g. to account for the use of animal data to predict effects on humans). These uncertainty factors help ensure that the RfDs will not underestimate the potential for adverse non-carcinogenic effects to occur.

For chemicals classified by EPA as proven or probable human carcinogens, risk was evaluated using cancer potency factors (CPFIs) which have been developed by EPA's Carcinogenic Assessment Group for estimating excess lifetime cancer risks associated with exposure to potentially carcinogenic chemicals. CPFIs were multiplied by the estimated intake of the potential carcinogen to provide an upper-bound estimate of the excess lifetime cancer

risk associated with exposure at that intake level. The term upper-bound reflects the conservative estimate of the risk calculated from the CPF. Use of this approach makes underestimation of the actual cancer risks highly unlikely.

EPA's Region 9 office has generated guidance for calculating toxicity values for chemicals considered to be "possible human carcinogens," such as 1,1-dichloroethene (1,1-DCE). EPA Region 9 has proposed developing a modified RfD for 1,1-DCE rather than using its CPF. The modified RfD is calculated by dividing its oral RfD by a safety factor of 10.

4. Risk Characterization

The risk characterization step of the risk assessment process combines the information from the previous steps to determine if an excess health risk is present at the site. Excess lifetime cancer risks are determined by multiplying the intake levels by the CPFs. These risks are probabilities that are generally expressed in scientific notation (e.g. 1×10^{-6}). An excess lifetime cancer risk of 1×10^{-6} indicates that, as a plausible upper-bound, an individual has a one in one million chance of developing cancer as a result of a site exposure to a carcinogen over a seventy year lifetime under the specific exposure conditions at a site. As is stated in the National Contingency Plan (NCP) (40 C.F.R. Section 300.430 (e)), "For known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess upper-bound lifetime cancer risk to an individual of between 10^{-6} and 10^{-5} ."

Potential concern for the non-carcinogenic effect of a single contaminant in a single medium is expressed as a hazard quotient (HQ), which is the ratio of the estimated intake derived from the contaminant concentrations in a given medium to the contaminant's reference dose. By adding the HQs for all contaminants within a medium or across all media to which a given population is exposed, the hazard index (HI) can be generated. The HI provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across media. An HI in excess of one is generally regarded by EPA as representing an unacceptable lifetime, non-carcinogenic human health risk.

As discussed previously, 1,1-DCE is classified as a "possible human carcinogen," reflecting the fact that there is only limited evidence available suggesting that this substance is a human carcinogen. Thus, in accordance with EPA Region 9 guidance, carcinogenic risk for 1,1-DCE was evaluated differently than for other carcinogens. The evaluation of 1,1-DCE's carcinogenicity is analogous to the calculation for the non-carcinogenic contaminants described above. A cancer hazard index (CHI) in

excess of one is regarded by EPA Region 9 as representing an unacceptable lifetime human health risk.

The results of the risk characterization step are summarized in Table 7. This table presents both typical and reasonable maximum exposure (RME) risks calculated for the current offsite residential, future onsite residential, and future onsite commercial or industrial scenarios. The typical (or average) exposure risk is based on exposure to mean contaminant levels and mean values for contact and intake variables, including exposure frequency and duration. The RME risk is based on exposure to a concentration defined as the 95 percent upper confidence limit of the arithmetic mean concentration and 90 to 95 percent percentile values for contact and intake variables.

For a current offsite receptor located at a distance of a thousand meters downwind and downgradient from the site, the risk associated with VOCs in air does not appear significant (HI and CHI are less than one and carcinogenic risk is less than 10^{-6}). For the groundwater pathways, the carcinogenic and non-carcinogenic risk levels are below the benchmarks of 10^{-6} and one, suggesting there is no significant health threat. However, the CHI for 1,1-DCE is nearly four times the acceptable level of one (under both average and RME conditions), suggesting that continued migration of contaminated groundwater could result in unacceptable health risks.

Under the future onsite residential scenario, the risk associated with ingestion and contact with onsite waste and soil was not evaluated quantitatively and was not summed with the other pathways evaluated, since only limited data from the pits was available at the time of writing the Risk Assessment. However, due to the presence of chromium, lead, and copper and high levels of VOCs and SVOCs in several of the pits, it was assumed that exposure to waste and soil would result in unacceptable health risks for onsite residents (termed significant risk in Table 7). Risk associated with inhalation of ambient air exceeded the acceptable benchmarks of 10^{-6} (average and RME conditions) and 1 (RME conditions only) for carcinogenic risk and CHI, suggesting unacceptable health risks for onsite residents. Finally, the CHI associated with ingestion of groundwater and inhalation of VOCs in groundwater also exceeded 1 (average and RME conditions), again suggesting unacceptable health risks for onsite residents. Since the total risk calculated for the future onsite residential scenario does not include exposure to waste and soil within the

- If carcinogenic risk for 1,1-DCE had been evaluated using the traditional approach, the RME risk due to ingestion of groundwater and inhalation of VOCs in groundwater under the current offsite residential scenario would have been 1×10^{-5} excess cancer. Similarly, under the future onsite residential scenario, the RME risk would have been 2×10^{-5} excess cancer. Thus, carcinogenic risk under both of these scenarios exceeds the acceptable risk range of 10^{-6} to 10^{-5} excess cancer, suggesting that continued migration of contaminated groundwater could result in unacceptable health risks. 27

TABLE 7
SUMMARY OF ESTIMATED RISKS - CURRENT AND FUTURE LAND USES

Exposure Scenario	Average Exposure	Estimated Maximum Exposure
I. CURRENT OFF-SITE RESIDENTIAL		
"Actual"		
a. Inhalation of Ambient Air	Extra Cancer Risk 8E-08	CHI for Noncarcinogenic MI 1.1E-01 CHI for Cancer Risk 3E-07
Total	8E-08	3E-07
Potential		
a. Ingestion of Ground Water	1E-07	4E-07
b. Inhalation of VOCs in Ground Water	7E-08	3E-07
c. Inhalation of Ambient Air	8E-08	3E-07
Total	2E-07	3E-07
II. FUTURE ON-SITE RESIDENTIAL		
Potential		
a. Ingestion of Ground Water	1E-07	1E-01
b. Inhalation of VOCs in Ground Water	1E-07	1E-01
c. Inhalation of Ambient Air	2E-05	7.3E-01
d. Exposure to Wastes Below Soil Cover	Significant Risk	Significant Risk
Total	2E-05	2E-01
III. FUTURE ON-SITE COMMERCIAL/INDUSTRIAL		
Potential		
a. Ingestion of Ground Water	7E-08	1E-01
b. Inhalation of VOCs in Ground Water	1E-07	1E-01
c. Inhalation of Ambient Air	2E-05	7.3E-01
d. Exposure to Wastes Below Soil Cover	Significant Risk	Significant Risk
Total	2E-05	2E-01

Notes:

- * "Actual" refers to currently complete exposure pathways. Risk numbers are estimates.
- Risk values presented do not account for exposure to wastes below the soil cover. Risks associated with exposure to these wastes are deemed unacceptable since the soil meets the criteria of hazardous waste.

pit (for reasons described above), the total risk values presented in Table 7 for this scenario represent minimum values and are expected to be significantly higher. Still, the total risk exceeded the 10^{-6} benchmark (average and RME), CHI of 1 (average and RME), and MI of 1 (RME).

Similarly, under the future onsite commercial or industrial scenario the risk associated with exposure to waste and soil was not evaluated quantitatively, but was assumed to be significant and indicative of unacceptable health risks for future workers in the HMA. The carcinogenic risk associated with inhalation of ambient air (average and RME) also exceeded the benchmark of 10^{-6} , indicating unacceptable health risks for future workers in the HMA. Again, as described above, the total risk calculated for the future onsite commercial/industrial scenario does not include exposure to waste and soil within the pits, and the total risk values presented in Table 7 for this scenario represent a minimum value and are expected to be significantly higher. Still, the total risk exceeded the 10^{-6} benchmark (average and RME) and CHI of 1 (average and RME).

Due to the threat of exposure to groundwater contaminants as a result of future offsite migration of contaminated groundwater, and the threat of exposure to contaminated waste and soil under the residential and commercial/industrial scenarios; actual or threatened releases of hazardous substances from this Site may present an imminent and substantial endangerment to public health or welfare.

2. ENVIRONMENTAL EVALUATION

The ephemeral Massayampa river (which drains to the south) and associated riparian habitat, is located about 3/4 mile east of the landfill. Although the Massayampa Landfill is located within the drainage area of this river, the landfill is located outside of the projected 100-year floodplain of the river.

The Arizona Game and Fish Department (AGFD) identified the Gambel's Quail, Mourning Dove, and Jack Rabbit as the most likely game species in the area and noted that interspersed stands of larger trees may be used by migratory birds. The U.S. Fish and Wildlife Service (USFWS) indicated that no listed or proposed threatened or endangered species or biological resources would likely be affected by contamination at the Site. USFWS did indicate that a candidate category 1 species, the Lowland Leopard Frog, may be found in the vicinity of the Site.

Under current Site conditions, there is no information to suggest that ecological receptors may presently be exposed to Site contamination. The HMA is covered by clean soil and the perimeter is bermed to prevent erosion and offsite drainage. Although contaminated groundwater appears to be migrating south,

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR THE DEXTER CORPORATION and ~~XXXXXXXXXX~~
THE MOGUL CORPORATION

By: *Julianne Splain*

Date: July 7, 1994

Name: Julianne Splain

Title: Assistant Secretary

Address: c/o The Dexter Corporation, One Elm Street

[Please Type] Windsor Locks, CT 06096

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Same as above

Title: _____

Address: _____

Tel. Number: (203) 292-7644

[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

The Dial Corp
FOR (a/k/a Armour Research Company, INC.

Date: 6-14-94

Name: L. G. Lemon

Title: Vice President and General Counsel

Address: 1850 N. Central Ave., Phoenix, AZ 85077-2212

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: R. E. Wilmoth

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Tel. Number: 602 207 5748 85077-2212

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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR THE HIGHSMITH COMPANY, INC., Rolamech
DUNCAN HIGHSMITH Division

Date: 7/1/94 Name: Duncan Highsmith
Title: President and Chief Executive Officer
Address: P.O. Box 800, W5527 Hwy. 106, Fort Atkinson,
[Please Type] WI 53538

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Duncan Highsmith
Title: President and Chief Executive Officer
Address: P.O. Box 800, W5527 Hwy. 106, Fort Atkinson, WI 53538
Tel. Number: 414/563-9571
[Please Type]

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR THE RINCHEM COMPANY ~~XXXXXX~~

Date: July 12, 1994 Name: C. D. Zisch
Title: President
Address: 77 East Missouri, House No. 22
(Please Type)
Phoenix, Arizona 85012

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Philip A Robbins and Kenneth A. Hodson
Title: Attorneys at Law
Address: 3300 North Central Ave., Suite 1800, Phoenix, AZ.
Tel. Number: (602) 248-7600 85012
(Please Type)

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Alcatel Information Systems, Inc., et al., relating to the Hassayampa Landfill Superfund Site.

FOR THE SHERWIN-WILLIAMS COMPANY, ~~INC.~~

Date: July 7, 1994

Name: 

Title: Vice President, General Counsel & Secretary

Address: 101 Prospect Avenue, N.W. Cleveland, OH 44115

[Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Allen J. Danzig

Title: Senior Corporate Counsel--Environmental

Address: 101 Prospect Avenue, N.W. Cleveland, OH 44115

Tel. Number: (216) 566-2482

[Please Type]

the nearest perennial surface water body where groundwater might discharge is the Gila River, which is more than 2 miles from the site.

With the understanding that the HMA is covered with soil, ACPD concludes that the likelihood of exposure to wildlife from low, ACPD did identify wetland and riparian habitat and associated species along the Gila River that might be affected if groundwater contamination were to migrate that distance. Groundwater modeling performed in the Risk Assessment indicates that this scenario is unlikely. There are no wetlands or riparian habitat within the boundaries of the site.

g. DESCRIPTION OF ALTERNATIVES

EPA initially considered a wide range of technologies and alternatives for remediation of the vadose zone (including soil and soil vapor above the water table) and for remediation of groundwater. The alternatives which survived the screening process and were evaluated in the detailed analysis are described below. For all of the alternatives except for the No Action Alternative, two groundwater options were evaluated. Since these two groundwater options are common to all of the alternatives except No Action, the groundwater options will be discussed first.

The cost of each of the alternatives evaluated is presented in Table 8.

1. GROUNDWATER

EPA evaluated two groundwater options for the site. These two options were identical with the exception that the treatment systems differed. Both options consisted of groundwater extraction, groundwater treatment, reinjection of the treated water, and continued groundwater monitoring. The two treatment options considered were air stripping and ultra-violet (UV) oxidation.

Under these options, groundwater would be extracted from Unit A using several extraction wells. Calculations performed in the Feasibility Study suggest that four to five extraction wells operating at five gallons per minute would achieve ARAAs in Unit A within a maximum of 20 to 30 years. However, the exact number of extraction wells, well locations, and pumping rates would be

TABLE 8
COST OF REMEDIAL ALTERNATIVES

ALTERNATIVE	ESTIMATED COST			
	CAPITAL COST	ANNUAL COST	PRESENT WORTH OF ANNUAL COST*	TOTAL PRESENT WORTH
Alternative 1 No Action	\$0	\$0	\$0	\$0
Alternative 2 Access/Deed Restrictions Cap Groundwater Extraction/ Treatment/Reinjection	Option A \$1,531,300	\$347,500	\$2,213,100	\$3,744,000
	Option B \$2,012,300	\$485,000	\$4,865,100	\$6,877,000
Alternative 3 Access/Deed Restrictions Cap Soil Vapor Extraction/ Treatment Groundwater Extraction/ Treatment/Reinjection/ Monitoring	Option A \$3,878,300	\$347,500	\$2,213,100	\$6,091,400
	Option B 4,359,300	\$490,500	\$4,865,100	\$9,224,400
Alternative 4 Access/Deed Restrictions Cap Soil Vapor Extraction/ Treatment Removal/Soil Washing Pit 1 Groundwater Extraction/ Treatment/Reinjection/ Monitoring	Option A \$4,980,300	\$347,500	\$2,213,100	\$7,193,000
	Option B 5,461,300	\$485,500	\$4,865,100	\$10,325,000

Option A refers to a groundwater treatment system using air stripping.
Option B refers to a groundwater treatment system using UV oxidation.
* Present worth costs are estimated based on a 10-year operating period.

determined during remedial design.

The extracted groundwater would be treated through air stripping or UV oxidation. Air stripping involves the transfer of VOCs dissolved in water to a stream of air flowing counter-current to a stream of water over a bed of packing material.

Contaminants which have been transferred to the air stream, can be discharged directly to the atmosphere or treated prior to discharge. Calculations performed in the Feasibility Study suggest that uncontrolled VOC air emissions from the air stripper would be 1.1 lbs/day, which is substantially below the Maricopa County guideline of 3 lbs/day and the EPA guideline of 15 lbs/day. Nevertheless, vapor phase carbon adsorption would be required to treat air emissions from the air stripper if total VOC emissions at the Site exceed the Maricopa County guideline. UV oxidation uses ultraviolet light and an oxidant (typically hydrogen peroxide or ozone) to destroy organic contaminants. Water and a small amount of chloride salts and carbon dioxide are produced as by-products, but there are no substantial air emissions from the process.

The treated groundwater would be reinjected, either onsite or in the immediate vicinity of the Site. The Feasibility Study indicated that one injection well screened in Unit B and located to the west of the hazardous waste area would be the most advantageous scenario. However, the number of injection wells, the location of the injection wells, depth of the injection wells, and injection rates would be determined during remedial design.

Continued groundwater monitoring would be performed to monitor and ensure the effectiveness of the remedy. The number of monitoring wells and frequency of sampling would have to be sufficient to monitor the effectiveness of the remedy. Additional investigation would be performed during remedial design to characterize the extent of groundwater and soil vapor contamination.

2. VADOSE ZONE

The following alternatives were evaluated for remediation of the vadose zone (including soil and soil vapor above the water table).

Alternative 1 - No Action.

Under this alternative no additional action would be taken at the Site following the RI/FS. Continued monitoring would be required at the Site, although the cost estimate for this alternative does not reflect the cost of performing such monitoring. EPA is required to carry a No Action alternative through the final

detailed analysis.

Alternative 2 - Access & Deed Restrictions, Cap, Groundwater Extraction/Treatment/Reinjection/Monitoring.

Under this alternative the perimeter fence would be upgraded and maintained to restrict unauthorized access to the Site. Long-term deed restrictions would also be imposed, thereby restricting future use of the Site. These restrictions would include (1) access limitations (including a requirement that a fence be maintained around the Site) and (2) use limitations restricting future use of the Site and restricting use of groundwater beneath the Site.

This alternative would also include the construction of a cap over the hazardous waste area. The purpose of this cap would be to prevent direct contact with contaminated waste and soil left in place, to reduce infiltration of water, and to reduce the release of VOC vapors to the atmosphere. At a minimum, this cap would have to meet the substantive requirements of a RCRA cap for Interim Status facilities as described in 40 CFR Parts 265.110 and 265.117 and as described in the "EPA Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments" (EPA/510-SW-89-047). The construction details and design requirements of this cap would be determined during remedial design.

As described previously, this alternative would also include groundwater extraction, groundwater treatment, reinjection of treated water, and continued groundwater monitoring to ensure the effectiveness of the remedy.

Alternative 3 - Access & Deed Restrictions, Cap, Soil Vapor Extraction/Treatment, Groundwater Extraction/Treatment/Reinjection/Monitoring.

This alternative is identical to Alternative 2 with the exception that it also includes soil vapor extraction and treatment of the extracted soil vapors. Soil vapor extraction would involve the installation of extraction vents in order to remove VOCs and SVOCs from the vadose zone. These vents would be installed within waste and soil in areas where waste and soil contamination has been demonstrated to be a threat to groundwater and where soil vapor has been identified as being present in excess of the soil vapor cleanup standards (see Section 1 - The Selected Remedy for a discussion of soil vapor cleanup standards). A vacuum system would be applied to the vents in order to induce air flow through the soil, causing the VOCs and SVOCs present in the waste and soil to volatilize into the air stream. Water in the air stream would be condensed, separated from the air stream, and transferred to a water treatment system. The contaminated air stream would then flow through an air and vapor treatment system

consisting of either a vapor phase carbon adsorption unit or a catalytic oxidation system (catalytic oxidation is essentially a thermal incinerator which uses a catalyst to promote the oxidation of VOCs). The specific soil vapor treatment system would be selected during remedial design.

Alternative 4 - Access & Deed Restrictions, Cap, Soil Vapor Extraction/Treatment, Excavation/Soil Washing, Groundwater Extraction/Treatment/Reinjection/Monitoring.

This alternative is identical to Alternative 3, except that it also includes excavation of approximately 1,400 cubic yards of waste from Pit 1, soil washing, and replacement of the treated material. Waste that is present at levels in excess of the Arizona Health-Based Guidance Levels for surface soil would be excavated using standard excavation equipment. The excavated waste would then be treated using a soil washing process. Soil washing involves contacting the waste with water to partition the contaminants from the solid phase to the liquid phase. Excavated wastes would be slurried with water to remove contaminants from the wastes and pumped through a filter press to separate the solids from the wastes. The contaminated water would then be collected for treatment, while the decontaminated soils would be backfilled into Pit 1.

II. SUMMARY OF THE COMPARATIVE ANALYSIS OF ALTERNATIVES

Each of the alternatives described in the preceding section was evaluated according to the nine criteria defined below. Each criterion is discussed in detail on the pages that follow this list.

Threshold Criteria

Overall protection of human health and the environment. Addresses whether the alternative can adequately protect human health and the environment, in both the short and long-term, from contaminants present at the Site.

Compliance with ARARs. Addresses whether the alternative will meet all Federal and State environmental laws that are applicable or relevant and appropriate requirements (ARARs) or provide grounds for invoking a waiver of the ARAR.

Primary Balancing Criteria

Long-term effectiveness and permanence. Refers to the long-term effectiveness and permanence afforded by the alternative along with the degree of certainty that the alternative will prove successful.

Reduction of toxicity, mobility, or volume through treatment. Refers to the degree to which the alternative reduces toxicity, mobility, or volume of the Site contaminants through treatment and reduces inherent hazards posed by the Site.

Short-term effectiveness. Refers to the short-term risks posed to the community, the potential impact on workers, and the potential environmental impact during implementation of the alternative.

Implementability. Refers to the ease or difficulty of implementing the alternative by considering technical feasibility, administrative feasibility, and availability of materials and services.

Cost. Includes capital costs, annual operating and maintenance costs (O & M costs), and net present value of O & M costs.

Modifying Criteria

State acceptance. Indicates whether the State concurs with, opposes, or has no comment on the preferred alternative.

Community acceptance. Indicates whether the community agrees with, opposes, or has no comment on the preferred alternative.

COMPARATIVE ANALYSIS

Overall Protection of Human Health and the Environment

Alternative 1 is not protective of human health and the environment since no action is taken to prevent future exposure to contaminated groundwater. In addition, future land use could result in direct exposure to waste material and contaminated soil.

Alternatives 2, 3, and 4 attain similar levels of protection of human health and the environment by preventing exposure to contaminated groundwater through groundwater extraction and treatment. In addition, these alternatives prevent contact with waste material and contaminated soil through the use of a cap and access and deed restrictions.

Alternatives 3 and 4 attain a slightly greater level of protection as compared to Alternative 2, since they use soil vapor extraction to reduce soil vapor contamination to levels that are protective of groundwater quality. This reduces the chances of exposure to the soil vapor contaminants through exposure to groundwater. Similarly, Alternative 4 attains a slightly greater level of protection as compared to Alternative 3, since contaminated waste from Pit 1 would be

excavated and treated. This provides additional protection in the unlikely event that deed and access restrictions and the cap fail to prevent direct contact with the waste material. The two groundwater treatment options considered, air stripping and UV oxidation, attain similar levels of protection of human health and the environment.

Compliance with ARARs

Alternative 1 does not comply with ARARs since it would not meet the groundwater cleanup standards. Alternatives 2, 3, and 4 all meet ARARs. Under these alternatives, it is estimated that groundwater cleanup standards would be met in a maximum of 20-30 years. However, since Alternatives 3 and 4 use soil vapor extraction to prevent vadose zone contaminants from continuing to contaminate groundwater, it is possible that these two alternatives could attain the groundwater cleanup standards more quickly than Alternative 2.

The two groundwater treatment options considered would both meet the groundwater cleanup standards. It is expected that emissions from the air stripper and the soil vapor extraction system would meet Federal and County guidelines. In the event that these guidelines are exceeded, vapor-phase carbon will be required in order to comply with these standards.

ADEQ Health-Based Guidance Levels for surface soil have been identified as TRCs for Alternative 4, which involves excavation and treatment of contaminated waste and soil. Under this alternative, contaminated waste and soil would be excavated and treated to the ADEQ HBGSLs. Alternatives 2 and 3 meet the ADEQ HBGSLs for surface soil indirectly by preventing exposure to contaminated waste and soil through the use of access and deed restrictions and a cap.

Long-Term Effectiveness and Permanence

Since Alternative 1 does not involve remediation at the Site, it does not provide long-term protection.

Alternatives 2, 3, and 4 provide similar long-term effectiveness with respect to groundwater by extracting and treating contaminated groundwater. However, Alternatives 3 and 4 provide greater long-term effectiveness with respect to groundwater as compared to Alternative 2, because Alternatives 3 and 4 use soil vapor extraction to prevent vadose zone contamination from being a continuing source of groundwater contamination. Both of the groundwater treatment options, air stripping and UV oxidation, are considered permanent remedies.

Alternatives 2, 3, and 4 use a cap and access and deed restrictions to attain long-term effectiveness and permanence

with respect to soil contamination. Through the use of soil vapor extraction, Alternative 3 attains a greater level of long-term effectiveness than Alternative 2. Alternative 4 provides a slightly greater level of long-term effectiveness since it also includes excavation and soil washing. However, since the volume of soil to be excavated and treated is relatively small (1,400 cubic yards), the added long-term effectiveness is limited.

Reduction of Toxicity, Mobility, or Volume Through Treatment

Alternative 1 does not involve any treatment and would not result in a reduction of toxicity, mobility, or volume.

Alternatives 2, 3, and 4 all attain a significant reduction in mobility and volume of groundwater contaminants through the use of groundwater extraction and treatment. Alternatives 2, 3, and 4 would also result in a reduction in mobility of vadose zone contamination through the use of a cap. The cap would limit the amount of infiltration, and would thereby reduce migration of vadose contamination to groundwater. Of the two groundwater treatment options considered, UV oxidation attains a greater reduction of toxicity, mobility and volume as compared to air stripping.

Alternatives 3 and 4 attain a greater reduction in mobility and volume of vadose zone contamination as compared to Alternative 2, since Alternatives 3 and 4 include the use of soil vapor extraction to treat vadose zone contamination. Alternative 4 attains a slightly greater reduction in mobility and volume as compared to Alternative 3, since Alternative 4 includes soil washing of waste material in Pit 1.

Short-Term Effectiveness

Since water supply wells in the vicinity of the Site have not yet been impacted by site-related chemicals and since access to the Site is currently restricted, there are few short-term risks associated with the Site. Alternative 4, which includes removal of contaminated waste, could potentially pose some short-term risk to remedial workers during implementation; however, this risk could be eliminated through proper engineering, safety, and management practices.

Implementability

All of the alternatives are readily implementable. Alternative 1 is the most readily implementable since it involves no action. Alternatives 2, 3, and 4 rely on demonstrated technologies and proven and effective methods and equipment. Of the groundwater treatment technologies evaluated (which are identical for Alternatives 2, 3, and 4), air stripping would be easier to implement than UV oxidation, since UV oxidation would require a

feasibility study prior to implementation.

Cost

Table A presents a cost comparison of the four alternatives. Alternative 1 has no additional costs since there would be no action taken at the site. The costs of Alternatives 2, 3, and 4 increase progressively. A cost sensitivity analysis is performed in the feasibility study indicated that the net present worth of Alternative 4 remains significantly higher than the other alternatives irrespective of the remedy is identical for Alternatives 2, 3, and 4, the cost of the two groundwater treatment technologies considered for these alternatives differs substantially. The cost of UV oxidation is significantly more expensive than the cost of air stripping.

State Acceptance

The State of Arizona, through both the Department of Environmental Quality and the Department of Water Resources, has participated in the RI/FS process. Both agencies have assisted in the development of ARARA and the remedy selection process. Since Alternative 1 is not protective of human health and the environment, this alternative would not be acceptable to either agency. Since Alternative 2 does not include soil vapor extraction and there is potential for continuing contamination of groundwater by soil vapor, this alternative would not be acceptable to either agency. Both Alternatives 3 and 4 would be acceptable to the two agencies.

Community Acceptance

Since Alternative 1 is not protective of human health and the environment, this alternative would not be acceptable to the community. Several community members have expressed a preference for treatment of contaminated soil gas, and as a result it is unlikely that Alternative 2 would be acceptable to the community. Alternatives 3 and 4 generally appear acceptable to the community; although several community members have expressed a preference for Alternative 4 since this alternative involves excavation and treatment of contaminated soil. Finally, several community members expressed a concern over the time required to reach the groundwater cleanup standards under Alternatives 2, 3, and 4.

1. THE SELECTED REMEDY

Alternative 3 is the selected remedy for the Hasegawa Landfill Superfund site. The selected remedy includes various zone (including soil and soil vapor above the water table) remediation and groundwater remediation. Table 9 provides an estimate of the

TABLE 9
ESTIMATED COST OF THE SELECTED REMEDY
HASEGAWA LANDFILL SUPERFUND SITE

Remedial Component	Description	Estimated Cost			Total
		Capital Cost	Annual Cost	Present Worth of Annual Cost	Present Worth
R1	Final and Access Restoration	\$ 7,500	\$ 900	\$ 9,400	\$ 17,000
R2	Cap	466,000	5,000	97,500	561,000
R3 & R4	Soil Vapor Extraction	2,307,000	N/A	N/A	2,307,000
R10 R11 & R12	Groundwater extraction, treatment, injection and monitoring	1,094,000	362,000	2,106,000	1,042,000
	a) air stripping treatment	1,094,000	362,000	2,106,000	1,042,000
	b) UV oxidation treatment	1,259,000	400,000	4,754,000	4,754,000
	TOTAL	a) 3,070,000	367,000	2,211,000	6,191,000
		b) 4,359,000	400,000	4,765,000	9,214,000

TOTAL IMPLEMENTATION COST

a)	\$ 6,091,000 (rounded)
b)	\$ 9,224,000
c)	\$ 9,300,000 (rounded)

cost of the selected remedy with respect to the vadose zone and groundwater components.

GROUNDWATER

The groundwater component of the remedy includes extraction of contaminated groundwater, treatment of the water using air stripping, reinjection of the treated water, and continued groundwater monitoring to measure the effectiveness of the remedy. The number, location, and pumping rates of the extraction wells will be determined during the remedial design stage. To date, groundwater contamination has been restricted to Unit A, so it is anticipated that contaminated groundwater will only be extracted from this unit. In the event that groundwater contamination is identified in Unit B, then groundwater will also be extracted from Unit B.

Air stripping, rather than UV oxidation, was selected as the groundwater treatment technology. Both technologies are capable of attaining the selected cleanup standards; however, air stripping is significantly less expensive. It is anticipated that combined air emissions from the air stripper and SVE system at the Site will meet the Federal VOC guideline of 15 pounds per day and the Maricopa County VOC guideline of 3 pounds per day. In the event that these guidelines are exceeded, vapor phase carbon adsorption will be added to the air stripper (the selected remedy already calls for emissions controls to be placed on the SVE system). The treated water meeting the groundwater cleanup standards will be reinjected onsite or in the immediate vicinity of the Site. The number, location, depth, and injection rates of the reinjection well(s) will be determined during remedial design.

Continued groundwater monitoring will be performed to ensure the effectiveness of the remedy. The number of monitoring wells and frequency of sampling will have to be sufficient to measure the effectiveness of the remedy.

Federal MCLs have been selected as groundwater cleanup standards for the Site (Appendix A). The groundwater cleanup standards shall be met at all points within the contaminated aquifer. For the chemicals detected at the Site, the ADEQ MCLs and non-zero MCLGs are identical to the Federal MCLs, and, therefore, were not selected as cleanup standards. For those chemicals for which MCLs do not exist, ADEQ HBCLs have been selected as cleanup standards. There was one chemical, 1,1-dichloroethane, for which no ARARs or TBCs exist; however, this chemical is present at concentrations below risk-based levels. As a result, no groundwater cleanup standard was selected for this chemical.

VADOSE ZONE

The vadose zone component of the remedy includes installation of a cap over the 10-acre Hazardous Waste Area, soil vapor extraction and treatment, and access and deed restrictions. The purpose of the cap is to prevent direct contact with contaminated waste and soil left in place, to reduce infiltration of water, to reduce the release of VOC vapors to the atmosphere, and to improve the efficiency of the soil vapor extraction system. The design and construction details of the cap will be determined during remedial design; however, at a minimum the cap must meet the substantive capping and maintenance requirements for Resource Conservation and Recovery Act (RCRA) interim status facilities as described in 40 CFR Parts 265.310 and 265.117 and as described in the "EPA Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments" (EPA/530-SW-89-047).

The vadose zone component of the remedy also includes performing soil vapor extraction at all locations at the Site where soil vapor levels exceed cleanup standards, and where waste and soil contamination has been demonstrated to be a threat to groundwater quality. While the specific areas of the Site which require soil vapor extraction will be determined by EPA during the remedial design, EPA presently expects these areas to include Pit 1, the area of soil vapor contamination north of Pit 1, and several portions of the Special Pits area. The location, number, and construction details of the soil vapor extraction vents will be determined during remedial design. The soil vapors will be treated using vapor phase carbon adsorption or catalytic oxidation, as determined during remedial design. The soil vapor cleanup standards will be levels, established by EPA, that are protective of groundwater quality (meaning that the migration of contaminants from the vadose zone to groundwater will not result in groundwater contamination that exceeds the groundwater cleanup standards), as determined by site-specific analytical modeling.

The selected remedy also includes implementation of access and deed restrictions at the Site. The perimeter fence will be upgraded and maintained to restrict unauthorized access to the Site. Long-term deed restrictions will also be imposed, thereby restricting future use of the Site. These restrictions will include (1) access limitations (including a requirement that a fence be maintained around the Site) and (2) use limitations (restricting future use of the Site and restricting use of groundwater beneath the Site).

Additional investigation will be performed during remedial design to define the extent of groundwater and soil vapor contamination at and in the vicinity of the Site.

The selected remedy for the Site allows contaminated waste and soil to remain onsite. As described in Section II-E of this ROD,

"Summary of Site Characteristics," Pit 1 was the only location where contaminants in waste or soil exceeded ADEQ's proposed HMMs or EPA's TCLP or EP Tox levels for organic chemicals. There were two pits which had minor exceedences of EP Tox levels for inorganic chemicals. It should be noted that the HMMs have not been promulgated and that the TCLP levels were not necessarily intended to be used as cleanup standards. Through the use of access and deed restrictions and a cap, the selected remedy will prevent direct contact with contaminated waste and soil. Through the use of soil vapor extraction, the selected remedy will limit the migration of vadose zone contaminants to groundwater.

EPA believes that the selected remedy provides the best balance of tradeoffs with respect to the nine criteria. While Alternative 4 may provide a slight increase in protection of human health and the environment and reduction of toxicity, mobility or volume through treatment; EPA does not believe that these marginal benefits are necessary or justify the additional costs.

J. STATUTORY DETERMINATIONS

Under its legal authorities, EPA's primary responsibility at Superfund sites is to undertake remedial actions that achieve adequate protection of human health and the environment. In addition, Section 121 of CERCLA establishes several other statutory requirements and preferences that EPA must consider when evaluating remedial alternatives for a Superfund site. Section 121 of CERCLA specifies that when complete, a selected remedial action must comply with ARARs established under Federal and State environmental laws unless a statutory waiver is justified. The selected remedy also must be cost effective and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Finally, Section 121 of CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduces the volume, toxicity, or mobility of hazardous wastes as their principal element. The following sections discuss how the selected remedy meets these statutory requirements.

1. PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT

Threats to human health and the environment posed by the Site include ingestion of contaminated groundwater, inhalation of VOCs in groundwater, and ingestion and contact with contaminated waste and soil. The selected remedy addresses the threat of exposure to contaminated groundwater through the extraction of contaminated groundwater and treatment to Federal and State regulatory levels. The selected remedy requires that these levels be met throughout the contaminated aquifer. The implementation of deed restrictions will provide further

protection by ensuring that drinking water wells are not installed onsite.

By requiring soil vapor extraction to levels that are protective of groundwater quality, the selected remedy ensures that vadose zone contaminants (soil and soil vapor) will not migrate to groundwater. The selected remedy addresses the threat of ingestion and contact with contaminated waste and soil through the use of access and deed restrictions and a cap. The cap will also minimize infiltration and limit the migration of vadose zone contamination to groundwater.

2. COMPLIANCE WITH ARARs

The selected remedy will comply with all Federal and more stringent State ARARs identified in Appendix A. In addition, the selected remedy will comply with TBCs identified in Appendix A.

3. COST-EFFECTIVENESS

The selected remedy is cost-effective in addressing the risks posed by the Site. Section 100.430(f)(1)(D) of the MCP states that once a remedial action satisfies the threshold criteria (overall protection of human health and the environment and compliance with ARARs), cost-effectiveness is determined by evaluating the following three balancing criteria: long-term effectiveness and permanence; reduction of toxicity, mobility or volume through treatment; and short-term effectiveness.

The selected remedy provides the best overall effectiveness at the lowest cost. Alternatives 3 and 4 attain a similarly high level of overall protection of human health and the environment; compliance with ARARs; long-term effectiveness and permanence; and short-term effectiveness. Alternative 4 would provide a slightly greater reduction of toxicity, mobility or volume through treatment; however, EPA does not believe this slight reduction merits the significant increase in cost.

The groundwater treatment technology selected for the Site also provides the best overall effectiveness at the lowest cost. Two groundwater treatment technologies, air stripping and UV oxidation, were evaluated as part of Alternatives 2, 3, and 4. Air stripping (which is a component of the selected remedy) provides a similar level of protection and treatment at substantially less cost than UV oxidation.

4. UTILIZATION OF PERMANENT SOLUTIONS AND ALTERNATIVE TREATMENT TECHNOLOGIES OR RESOURCE RECOVERY TECHNOLOGIES TO THE MAXIMUM EXTENT PRACTICABLE

EPA has determined that the selected remedy represents the maximum extent to which permanent solutions and treatment

technologies can be used at the Site in a practicable manner. The selected remedy provides the best balance of trade-offs in terms of long-term effectiveness and permanence, reduction in toxicity, mobility or volume through treatment, short-term effectiveness, implementability, and cost, while also considering State and community acceptance.

The selected remedy will result in a reduction in the volume and mobility of groundwater contaminants through groundwater extraction, treatment, and reinjection. Continued groundwater monitoring will be performed to ensure that the remedy is protective of human health and the environment. The selected remedy uses soil vapor extraction and treatment to prevent vadose zone contamination from continuing to contaminate groundwater. Additionally, a cap will be used to prevent contact with contaminated waste and soil and to further limit the migration of vadose zone contamination to groundwater.

5. PREFERENCE FOR TREATMENT AS A PRINCIPAL ELEMENT

The selected remedy satisfies the statutory preference for remedies that employ treatment as a principal element. By treating the contaminated groundwater using air stripping, the treated water can be returned to its beneficial use through reinjection. By performing soil vapor extraction and treatment, vadose zone contamination will be prevented from continuing to contaminate groundwater.

The selected remedy does allow a relatively small volume of contaminated soil (1,400 cubic yards) which exceeds ADEQ Health-Based Guidance Levels to remain onsite. By requiring access and deed restrictions and a cap, the selected remedy will prevent exposure to these contaminants. EPA does not believe that treatment of this contaminated soil is necessary or worth the additional cost.

R. SIGNIFICANT CHANGES

There are no significant differences between the remedy identified in the Proposed Plan and the remedy selected in the Record of Decision.

APPENDIX A ARARS AND OTHER CRITERIA FOR THE SELECTED REMEDY AT THE HASSAYAMPA LANDFILL SITE

This appendix identifies ARARs and other criteria to be considered (TBCs) for the selected remedy for the Hassayampa Landfill Site. The selected remedy shall meet the requirements of the ARARs identified below. Furthermore, unless otherwise indicated, the selected remedy shall also meet the requirements of the TBCs identified below.

CHEMICAL-SPECIFIC ARARS AND TBCs

Table A-1 presents chemical-specific ARARs and TBCs for water arranged by chemical compound. The Safe Drinking Water Act (SDWA) Maximum Contaminant Levels (MCLs) are based on human consumption of water for drinking, cooking, bathing, etc. Economic considerations and technical feasibility of treatment processes are included in the justification for these levels. MCLs are applicable to drinking water at the tap pursuant to the SDWA, and are ARAR for treated water when the end use is drinking water. Pursuant to 40 C.F.R. Section 300.430(e)(2)(i)(B), MCLs and non-zero Maximum Contaminant Level Goals (MCLGs) are relevant and appropriate as in-situ aquifer standards for groundwater that is or may be used as drinking water.

ADEQ Aquifer Water Quality Standards (ADEQ MCLs), established pursuant to A.R.S. Section 49-223 are identical to SDWA MCLs for the compounds detected in groundwater at the Hassayampa Landfill Site. Since ADEQ MCLs are not more stringent than the SDWA MCLs, these ADEQ standards are not ARARs and are not included in Table A-1.

ADEQ MCLs for groundwater are TBCs for the Site. The MCLs are derived from calculations based on ingestion of groundwater. The MCLs have not been promulgated. ADEQ MCLs were selected as cleanup standards only for chemicals for which no SDWA MCL or MCLGs existed.

Federal Health Advisories, which are criteria developed by either EPA's Office of Drinking Water Health Advisory Program or the National Academy of Sciences (NAS), were considered at the Site. The Federal Health Advisories are based on NAS-suggested Non-Adverse Response Levels (SNARLs) at which no known or anticipated adverse human health effects would occur, given an adequate margin of safety. These Federal Health Advisories were not selected as cleanup standards, since they were less stringent than the SDWA MCLs and ADEQ Health-Based Guidance Levels (HBGLs).

LOCATION-SPECIFIC ARABs

Table A-2 identifies location-specific ARARs and TCRs for the Massayampa Landfill Site. Location-specific ARARs are concerned with the area in which the Site is located. Actions may be required to preserve or protect aspects of the environment or cultural resources of the area that may be threatened by the existence of the Site, or by remedial actions to be undertaken at the Site.

ACTION-SPECIFIC ARARs

Table A-3 identifies action-specific ARARs for the Massanypa Landfill Site. The actions included in Table A-3 are components of the selected remedy.

ADDITIONAL STATE ARARs and TDCs

Arizona Revised Statute Section 49-224 is applicable or relevant and appropriate at the Massayampa Landfill Site. A.R.S. Section 49-224 classifies all Arizona aquifers as drinking water aquifers. Section 45-454.01 of the Arizona Groundwater Management Act (GMA) (A.R.S. Sections 45-454.01), is also applicable or relevant and appropriate to the Site. All offsite uses of treated groundwater are subject to state law outside the context of the Superfund action. However, for activities conducted onsite, the substantive portions of the provisions referenced within Section 45-454.01 of the GMA shall be applicable or relevant and appropriate.

While the State of Arizona has cited 49 A.R.S. Section 282(D)(2) as an ARAR, EPA has not identified this Arizona law as an ARAR since it does not establish groundwater cleanup standards that are more stringent than the federal cleanup standards selected for the Hassayampa Landfill Site. Like Section 300.430(a)(iii) of the National Contingency Plan, 49 A.R.S. Section 282(D)(2) evinces an intent that remedial actions shall, to the extent practicable, provide for the control, management, or cleanup of hazardous substances so as to allow the maximum beneficial use of the waters of the State. The maximum beneficial use of groundwater in Arizona appears to be "drinking water protected use," which is defined as the protection and maintenance of aquifer quality for human consumption. See Ariz. Admin. Comp. R. 18-11-501; 49 A.R.S. Section 224 (which classifies all aquifers in Arizona as drinking water aquifers). Under 49 A.R.S. Section 223, aquifer water quality standards are established as primary maximum contaminant levels, which are the groundwater cleanup standards selected in this ROD in accordance with CERCLA Section 121(d).

TABLE A-1 - HAZARDOUS LANDFILL SITE
NON-HAZARDOUS CLEANUP STANDARDS, CHEMICAL SPECIFIC ARMS AND REQUIREMENTS TO BE CONSIDERED
CONCENTRATIONS (IN PARTS PER BILLION (PPB))

[illegible]

2) the temperature for which the maximum conversion exceeds the values stated in 1);
3) the type of wire used and confirmed in graduated samples taken during the 2) and 3);
4) the type of field (open space);
5) the sum of the substances tested (including phosphorus, bromine, chlorine, sulfur, and iodine).

W: Vinyl chloride has never been detected in groundwater samples at the site, but has been detected in one or two lots.

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1. The first of the three main types of the system is the "one-to-one" system, in which each user has a dedicated terminal connected to a central computer. This system is simple and easy to use, but it is also expensive and inefficient.	2. The second type is the "shared" system, in which multiple users share a common terminal. This system is more economical than the "one-to-one" system, but it is also more complex and requires more sophisticated software.	3. The third type is the "distributed" system, in which the computer is divided into several smaller units, each of which can serve its own set of users. This system is the most flexible and scalable, but it is also the most complex and expensive.
4. The "one-to-one" system is the simplest and most straightforward. It consists of a single user terminal connected to a central computer. The user can interact with the computer through the terminal, and the computer can process the user's requests. This system is easy to set up and use, but it is also expensive and inefficient.	5. The "shared" system is more complex than the "one-to-one" system. It consists of multiple user terminals connected to a common terminal. The user can interact with the computer through the common terminal, and the computer can process the user's requests. This system is more economical than the "one-to-one" system, but it is also more complex and requires more sophisticated software.	6. The "distributed" system is the most complex and expensive. It consists of several smaller computer units, each of which can serve its own set of users. The user can interact with the computer through any of the units, and the computer can process the user's requests. This system is the most flexible and scalable, but it is also the most complex and expensive.

**APPENDIX B
RESPONSES TO COMMENTS - SANAYAMPALA LANDFILL SUPERFUND SITE**

The proposed plan for the Sanayampala Landfill Superfund Site was presented to the public on June 28, 1992. The proposed plan described EPA's preferred alternative for cleanup of the site and announced the public comment period from June 1 through June 10, 1992. On June 11, 1992, EPA presented the proposed plan at a public meeting and accepted comments regarding the proposed plan.

During the public meeting, Doris M. Reiser, representing the Tonopah Valley Association, read a letter containing comments on the proposed plan. This same letter, dated June 11, 1992, was submitted in writing during the public comment period. A second letter, dated June 29, 1992, was submitted by Stephen M. Quigley of Conestoga-Rovers and Associates Limited on behalf of the Sanayampala Steering Committee. A summary of the comments provided, as well as EPA's response to each comment, is provided below.

Commenter: Doris M. Reiser, Tonopah Valley Association

This letter did not include specific comments on the proposed plan, but rather described several concerns relating to the landfill and asked several questions pertaining to the proposed plan.

1. Comment:

The commenter expressed concern over past acceptance of hazardous waste at the landfill and continued acceptance of municipal waste at the landfill. The commenter expressed a preference that the landfill be closed and converted to a transfer station.

1. EPA Response:

The Sanayampala Landfill no longer accepts hazardous waste. The acceptance of municipal waste at the landfill is in compliance with Federal and State regulations.

2. Comment:

The commenter assumed that hazardous waste materials and contaminated soils would be removed from the landfill and that contaminated groundwater would be treated.

1. EPA Response:

Contaminated groundwater at the site will be extracted and treated. Contaminated soils that pose a threat to groundwater quality will also be treated. The site will

remain free of any contaminated soil and waste material to remain in place at the site. The volume of contaminated soil and waste which exceeds the Arizona Health-based outdoor level for surface soil is relatively small (1,400 cubic yards). Exposure to this material will be prevented through the use of a cap and access and denial restrictions. The soil vapor extraction system will minimize migration of soil and waste contaminants to groundwater.

4. Comment:

The commenter requested that the technologies associated with the various alternatives be explained further. Additionally, the commenter asked whether the cap would consist of compacted soil, a plastic liner, or both.

4. EPA Response:

The technologies associated with the various alternatives considered are described in detail in the feasibility study and the Description of Alternatives section of the Record of Decision (ROD). The Feasibility Study and ROD are part of the Administrative Record for the site, which is available for review at the Nuckeye library located at 310 North 6th Street in Nuckeye, Arizona. The technologies associated with the alternatives were further described during the public meeting.

The cap design will meet the substantive requirements of a RCRA cap for Interim Status facilities, as described in an EPA Parts 265.310 and 265.117, and as described in the EPA Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments (EPA/510-R-92-047). Final cap design will be determined during the remedial design phase. It is expected that the cap will consist of a compacted soil cover. It is possible, but not necessarily required, that a synthetic liner could be used in the cap construction. The cap will cover the 10-acre hazardous waste area of the landfill.

5. Comment:

The commenter expressed a preference for a remedy that includes deed restrictions and treatment of soil gas.

5. EPA Response:

Deed restrictions and soil gas treatment are components of the selected remedy.

6. Comment:

The commenter expressed concern over risk factors associated with the Site and expressed a preference for cleanup methods which offer the greatest level of protection of public health, whether or not these methods are required by law or meet regulatory standards.

6. EPA Response:

The selected remedy is protective of human health and the environment. Of the cleanup alternative evaluated for the Site, Alternative 3 (the selected remedy) and Alternative 4 would attain similarly high levels of protection. Alternative 4 would provide a slightly higher level of protection since contaminated waste and soil from Pit 1 would be excavated and treated. This would provide additional protection in the event that the cap and access and deed restrictions fail to prevent contact with contaminated waste and soil. EPA believes that the cap and access and deed restrictions provide sufficient protection from exposure to contaminated waste and soil left in place at the Site.

Commenter: Stephen M. Quigley, Conestoga-Revere and Associates

1. Comment:

The Proposed Plan incorrectly states that samples of groundwater collected from Arizona Department of Health Services (ADHS) monitoring wells installed at the Site were found to be contaminated with VOCs. In fact only samples from one of the ADHS wells contained groundwater contamination.

1. EPA Response:

EPA agrees with the commenter and this statement has been corrected in the Record of Decision.

2. Comment:

The Proposed Plan incorrectly states that groundwater at the Site is contaminated by SVOCs.

2. EPA Response:

EPA agrees with the commenter and the appropriate corrections have been made in the Record of Decision.

1. Comment:

The Proposed Plan states that the cap for the hazardous

waste area would be required to meet or exceed the requirements of RCRA. The commenter requested that the appropriate requirements, as stated in the RCRA regulations, which relate to the design and construction of the cap be presented in the ROD.

1. EPA Response:

EPA agrees with the commenter. Additional language describing the specific regulations which apply to design, construction, and maintenance of the cap have been added to the ROD. The cap design will meet the substantive requirements of a RCRA cap for Interim Status facilities, as described in 40 CFR Parts 265.310 and 265.117 and as described in the EPA Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments (EPA/530-SW-89-047). EPA believes that it is sufficient to cite the specific regulations and guidance documents, and that it is not necessary to fully describe the requirements of these regulations and guidance documents in the text of the ROD.

4. Comment:

The following important documents should have been included in the Administrative Record for the Site:

- Stage I Report
Remedial Investigation/Feasibility Study
Massayampa Landfill Site, Maricopa County, AZ
March 13, 1992
- Liquid Waste Evaluation Report
Massayampa Landfill Site, Maricopa County, AZ
October 9, 1990
- Response to Agency Comments
Technical Screening Memorandum
Massayampa Landfill Site
January 29, 1992

Several other documents are also missing from the Administrative Record. These documents include several monthly data submittals and progress reports, letters notifying EPA of schedules and procedures for field work, EPA letters of approval for field work, distribution lists for project deliverables, the draft RI report, the draft FS report, and various correspondence pertaining to the RI/FS. While it is not necessary to include these other documents in the Administrative Record, the Massayampa Steering Committee wants to note the existence of these documents.

4. EPA Response:

EPA agrees with the commenter that the Stage I RI/FS Report, the Liquid Waste Evaluation, and the Response to Agency Comments - Technical Screening Memorandum should be included in the Administrative Record. These documents have subsequently been added to the Administrative Record.

With respect to the other documents identified as missing from the Administrative Record, EPA believes that the Administrative Record for the Site is complete. If the Massayaqa Steering Committee wishes to specifically identify other documents that belong in the Administrative Record, EPA will consider inclusion of these documents.

APPENDIX C

HASSAYAMPA LANDFILL
SUPERFUND SITE

Maricopa County, Arizona

ADMINISTRATIVE RECORD
CUMULATIVE INDEX

May 29, 1992

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IX

NOTE: Appendix C, the Administrative Record Index, is available from EPA upon request.

APPENDIX B

SCOPE OF WORK - CONSENT DECREE REMEDIAL DESIGN/REMEDIAL ACTION

**Hassayampa Landfill
Maricopa County, Arizona**

MARCH 1994

REF. NO. 4403 (9)

This report is printed on recycled paper

**CONESTOGA-ROVERS & ASSOCIATES
ERROL L. MONTGOMERY & ASSOCIATES**

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1.0 INTRODUCTION

The following scope of work ("SOW") outlines the work to be performed by Settling Defendants for the Remedial Design/Remedial Action (RD/RA) and Work at the Site and Hazardous Waste Area as defined in the Consent Decree (CD), in Maricopa County, Arizona. The definitions set forth in the CD shall also apply to this SOW unless expressly provided herein. The purpose of this SOW is to fully implement the remedy as described in the Record of Decision (ROD), issued in August 1992, for the Site and to achieve the Performance Standards for the Site set forth in the ROD, CD and this SOW. The SOW includes a summary and description of the remedial work tasks to be completed by the Settling Defendants. As part of the description of the tasks for the RD and RA, a summary of all Deliverables, Technical Memos and Technical Proposals is presented. The requirements of this SOW will be further detailed in work plans to be submitted by the Settling Defendants to EPA for approval as set forth in this SOW.

2.0 OVERVIEW OF THE REMEDY

The objectives of the remedial action are to:

- prevent or mitigate the continued release of hazardous substances, pollutants and contaminants to the underlying aquifers;
- reduce the risks to human health associated with direct contact with hazardous substances, pollutants or contaminants from the Site;
- reduce the risks to human health associated with inhalation of hazardous substances, pollutants and contaminants from the Site;
- eliminate or minimize the threat posed to human health and the environment from current and potential migration of hazardous substances in the groundwater and subsurface and surface soil and sediment at the Site;
- reduce concentrations of hazardous substances, pollutants and contaminants in the surface and subsurface soil, and in the groundwater at the Site to levels specified by all applicable or relevant and appropriate requirements (ARARs); and
- reduce the volume, toxicity and mobility of hazardous substances, pollutants and contaminants at the Site.

3.0 REMEDY COMPONENTS

The Settling Defendants shall implement the Work at the Site, which includes vadose zone remediation and groundwater remediation. Components of the remedy which have been, are being or will be completed at the Site under a Unilateral Administration Order (UAO) issued by EPA include: an Additional Investigation (AI); a Vadose Zone Treatability Study; and the design, construction and operation of a Groundwater Pilot Study including the construction of a cap for the Hazardous Waste Area. Settling Defendants shall implement deed and access restrictions as required by the ROD and CD.

The elements of the remedy which remain to be addressed in this SOW are vadose zone remediation (soil venting), supplemental design and construction of the groundwater remedy, if required by EPA, and continued operation, maintenance and monitoring of the entire remedy.

3.1 VADOSE ZONE REMEDIATION

3.1.1 Soil Venting

The Settling Defendants shall perform soil venting at all locations on the Site where soil vapor levels exceed the Soil Vapor cleanup levels. The Settling Defendants shall propose and the EPA shall review and determine the specific areas of the Site requiring soil venting during the remedial design phase (see discussion below in Section 3.1.2). These areas are likely to include, without limitation, Pit 1, the area of soil vapor contamination north of Pit 1, and several portions of the Special Pits area (see Figure 3.1). The Settling Defendants shall propose and the EPA shall review and approve the location, number, and construction details of the soil vapor extraction wells during the remedial design phase. Settling Defendants shall treat soil vapors using vapor phase carbon adsorption or catalytic oxidation as determined by EPA during Remedial Design.

The design for the soil venting system(s) shall be based upon the results of the Vadose Zone Treatability Study, and the Vadose Zone Analytical Modeling Report completed under the UAO.

3.1.2 Vadose Zone Remediation Cleanup Levels

The Record of Decision (ROD) requires that the Performance Standard for soil be achieved. The ROD also requires the use of a vadose zone model to establish cleanup levels to achieve the Performance Standard. These cleanup levels will be levels established by EPA that are protective of groundwater quality (meaning that the migration of contaminants from the vadose zone to the groundwater will not result in groundwater contamination that exceeds the groundwater Performance Standards, as determined by Site-specific analytical modeling).

The Settling Defendants shall propose and the EPA shall approve cleanup levels during the AI which will meet the vadose zone Performance Standard set forth in the ROD.

3.1.3 Shut Down of Discrete Portion and Shut Off Criteria

3.1.3.1 Shut Down Procedures

With respect to the soil remedy set forth in the ROD, Settling Defendants shall extract and treat soil vapor from those portions of the Site where EPA determines that concentrations of contaminants in soil vapor exceed the cleanup levels. Settling Defendants shall operate the soil vapor extraction systems in each discrete portion of the Site until the analytical data for the combined influent to the vapor collection system for that discrete portion or at EPA's discretion, analytical data from each individual soil vapor extraction well for that discrete portion, demonstrates to the satisfaction of EPA, that the concentrations in the soil vapor, for all contaminants for which there are cleanup levels, have been maintained^t at or below the cleanup levels during a frequency of monitoring events defined in

the Soil Performance Standards Verification Plan. After receiving written concurrence from EPA, Settling Defendants may cease operation of discrete portions of the soil venting system for which such concurrence is given. If a treatment system provides treatment for only one discrete portion for which the demonstration has been made, then the treatment system may be removed from the Site, provided that the necessary piping is left in place to conduct the final demonstration of compliance, pursuant to Section 3.1.3.3, below. In the event that Settling Defendants are required to recommence soil vapor extraction pursuant to Sections 3.1.3.2, 3.1.3.3 or 3.1.3.4 of this SOW in areas where the treatment system has already been removed, EPA may require the Settling Defendants to replace the removed treatment system.

For all areas of the Former Hazardous Waste Disposal Area where the vadose zone modeling has determined that soil vapor extraction shall be performed, there shall be a "discrete portion" for the coarse grained and fine-grained zone for each modeling polygon.

3.1.3.2 Demonstration

Beginning 20 days after cessation of operations at any discrete portion, Settling Defendants shall conduct three soil vapor sampling rounds under non-pumping conditions at 20-day intervals, at a representative number and locations (as determined by EPA) of soil vapor monitor/extraction wells within each discrete portion of the Site where soil venting operations have ceased. If Settling Defendants demonstrate to the satisfaction of EPA that all of the concentrations detected during the three sampling rounds for all contaminants for which there are cleanup levels and for all of the representative number of wells specified by EPA in that portion are at or below the cleanup levels, Settling Defendants may remove the treatment system for that discrete portion of the Site. If Settling Defendants cannot make such a demonstration, Settling Defendants shall recommence soil venting for that discrete portion of the Site. No sooner than six months after the recommencement of soil venting, Settling Defendants may again seek concurrence from EPA under Section 3.1.3.1 to shut down that portion.

3.1.3.3 Final Demonstration of Compliance

When soil venting operations at all discrete portions of the Site have been discontinued under the requirements of this section, Settling Defendants shall make a final demonstration that the soil venting operations have met the requirements of the Consent Decree. Requirements for the final demonstration consist of one additional sampling round for a representative number and locations (as determined by EPA) of soil vapor monitor/extraction wells.

If Settling Defendants can make such a final demonstration, Settling Defendants may remove all soil venting treatment equipment. If Settling Defendants cannot make such a final demonstration, Settling Defendants shall recommence soil venting operations in those discrete portions where Performance Standards were not met.

Reservation

Notwithstanding the preceding paragraphs, EPA may, until it issues the Certificate of Completion of the Remedial Action, require further soil vapor extraction at any or all portions of the Site if EPA determines that such extraction is necessary to meet and maintain the soil vapor cleanup levels.

3.1.4 Revised Soil Vapor Cleanup Levels

Settling Defendants may propose, and EPA may review and approve, revised cleanup levels or methods of achieving such cleanup levels based on new vadose zone modeling technology or other data/developments, and/or the impact of continued operation of the groundwater remedy. EPA may approve revised cleanup levels or methods and authorize Settling Defendants in writing to modify or terminate the soil remediation for the relevant portion or portions of the Site.

3.2 GROUNDWATER REMEDIATION

Under the UAO, a Groundwater Pilot Study will be conducted in order to verify that the preliminary design for groundwater remediation (M&A, May 1992) is satisfactory and to collect additional data to prepare a supplemental design, if necessary, for the groundwater remedy.

During the pilot study, the Settling Defendants shall extract contaminated groundwater at the Site, treat such groundwater using air stripping, reinject the treated water using one or more injection wells, and continue groundwater monitoring (as outlined in Section 3.2.3) to measure the effectiveness of the remedy. A Hydraulic Containment Evaluation Report shall be submitted at the end of the pilot study to allow EPA to determine, in conjunction with the AI Report, whether a supplemental design is necessary to meet the Performance Standards. This Hydraulic Containment Evaluation Report will be submitted under the CD SOW.

3.2.1 The Major Components of the Groundwater Remediation

This section describes the scope of the Groundwater Pilot Study and the manner in which the success of the pilot study will be assessed.

3.2.1.1 Extraction of Contaminated Groundwater from Unit A

In the event that groundwater contamination at the Site has been restricted to aquifer Unit A (as described in Section II.A.7 of the ROD), EPA anticipates that it will be necessary for Settling Defendants to extract groundwater, using four extraction wells, from only Unit A. The proposed locations of the extraction wells are shown on Figure 3.1.

Settling Defendants shall submit a Hydraulic Containment Evaluation Report at the end of the Groundwater Pilot Study. The Hydraulic Containment Evaluation Report shall evaluate the success of

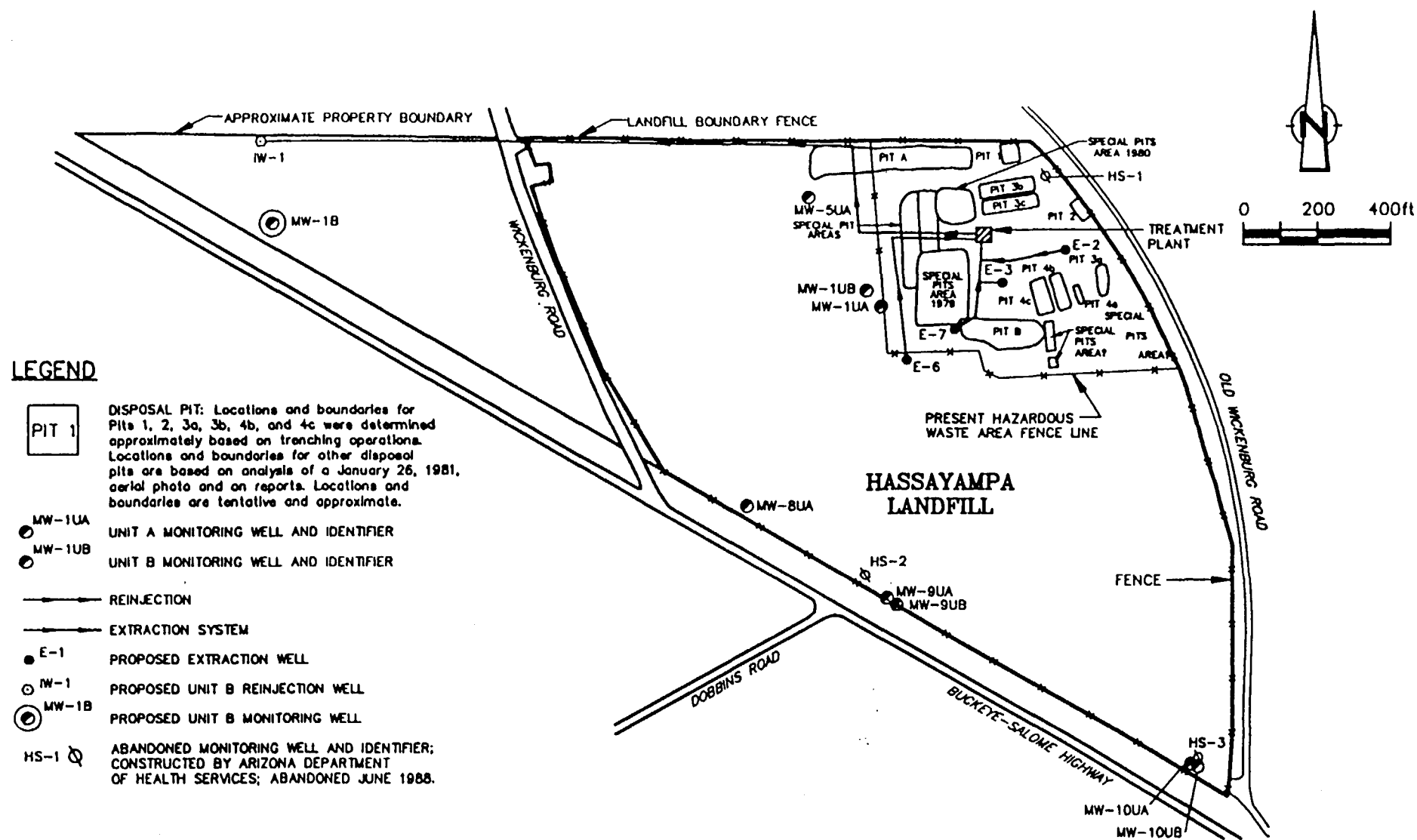


figure 3.1
GROUNDWATER EXTRACTION/TREATMENT/
REINJECTION SYSTEM
HASSAYAMPA LANDFILL
Maricopa County, Arizona

REFERENCE:
INFORMATION FOR BASE MAP
FROM ERROL L. MONTGOMERY
AND ASSOCIATES INC.

CRA

the Groundwater Pilot Study in achieving hydraulic containment and the Performance Standards for air discharge and reinjection of treated groundwater. EPA shall review the Hydraulic Containment Evaluation Report in conjunction with the AI Report and shall determine whether further action is necessary to achieve hydraulic containment or Performance Standards. EPA shall determine whether Settling Defendants shall submit a Remedial Design Report for EPA review and approval to address construction of additional extraction wells and/or other operating measures to remediate groundwater in the targeted area. If groundwater contamination is identified in any other aquifer units, including Unit B (as described in Section II.A.7 in the ROD), at a concentration which exceeds groundwater Performance Standards, then Settling Defendants shall also propose to EPA, in the Remedial Design Report a revision of the groundwater extraction design as appropriate.

3.2.1.2 Treatment of Contaminated Groundwater

The Settling Defendants shall treat contaminated groundwater using air stripping technology. The Settling Defendants shall reinject the treated water on the Site or in the immediate vicinity of the Site. This treated groundwater shall meet the groundwater Performance Standards. If the injection well does not provide adequate reinjection, or if the treated groundwater does not meet Performance Standards, the extraction, treatment or reinjection systems' designs shall be revised accordingly.

3.2.1.3 Groundwater Monitoring

The Settling Defendants shall implement the groundwater monitoring program shown in Table 3.1 for aquifer Units A and B, or as modified by the Performance Standards Verification Plan, which will be submitted under this SOW. At EPA's discretion, the groundwater monitoring program may also be modified as a result of unanticipated analytical results obtained during the monitoring program.

TABLE 3.1
GROUNDWATER MONITORING PROGRAM
HASSAYAMPA LANDFILL SITE

Monitoring Location (4)	Parameter:	VOCs					Water Levels					TCL/TAL				
	Year:	Pre O & M (1)	1(2)	2(2)	3(2)	(5)	Pre O & M (1)	1(2)	2(2)	3(2)	(5)	Pre O & M (1)	1(2)	2(2)	3(2)	(5)
MW-1UA		S	Q	S	S	A	S	Q	S	S	A	-	-	-	-	-
MW-1UB		S	S	A	A	A	S	Q	S	S	A	-	-	-	-	-
MW-2UA		S	Q	S	S	A	S	Q	S	S	A	-	-	-	-	-
MW-2UB		S	S	A	A	A	S	Q	S	S	A	-	-	-	-	-
MW-3UA		S	Q	S	S	A	S	Q	S	S	A	-	-	-	-	-
MW-3UB		S	S	A	A	A	S	Q	S	S	A	-	-	-	-	-
MW-4UA		S	Q	S	S	A	S	Q	S	S	A	-	-	-	-	-
MW-4UB		S	S	A	A	A	S	Q	S	S	A	-	-	-	-	-
MW-5UA		S	Q	S	S	A	S	Q	S	S	A	-	-	-	-	-
MW-6UA		S	Q	S	S	A	S	Q	S	S	A	-	-	-	-	-
MW-6UB		S	S	A	A	A	S	Q	S	S	A	-	-	-	-	-
MW-7UA		S	Q	S	S	A	S	Q	S	S	A	-	-	-	-	-
MW-8UA		S	Q	S	S	A	S	Q	S	S	A	-	-	-	-	-
MW-9UA		S	Q	S	S	A	S	Q	S	S	A	-	-	-	-	-
MW-9UB		S	S	A	A	A	S	Q	S	S	A	-	-	-	-	-
MW-10UA		S	Q	S	S	A	S	Q	S	S	A	-	-	-	-	-
MW-10UB		S	S	A	A	A	S	Q	S	S	A	-	-	-	-	-
MW-11UA (3)		S	Q	S	S	A	S	Q	S	S	A	-	-	-	-	-
MW-12UA (3)		S	Q	S	S	A	S	Q	S	S	A	-	-	-	-	-
MW-13UA		S	Q	S	S	A	S	Q	S	S	A	-	-	-	-	-
MW-14UA		S	Q	S	S	A	S	Q	S	S	A	-	-	-	-	-
MW-15UB		S	Q	S	S	A	S	Q	S	S	A	-	S	S	A	A
Extraction Wells		-	W3M9	Q	Q	S	-	W3M9	Q	Q	S	-	-	-	-	-
Treatment System Influent		-	W3M9	Q	Q	S	-	-	-	-	-	-	S	S	A	A
Treatment System Effluent		-	W3M9	Q	Q	S	-	-	-	-	-	-	S	S	A	A

Notes:

MW-11UA and MW12-UA - New Monitoring Well
 MW - Existing Monitoring Wells
 IW - New Injection Well
 VOCs - Volatile Organic Compounds
 TCL/TAL - Target Compound List/Target Analyte List Analyses
 W3M9 - Weekly first 3 months then monthly for the next 9 months
 Q - Quarterly
 S - Semi-Annually
 A - Annually

- (1) Refers to the period from the effective date of the UAO, until receipt of EPA Approval of the Groundwater Pilot Study O&M Manual
- (2) Refers to the period after receipt of EPA Approval of the Groundwater Pilot Study O&M Manual.
- (3) Installed as part of the Additional Investigation.
- (4) Any additional wells installed will be monitored at a frequency proposed by Settling Defendants and determined by EPA.
- (5) Until the end of the monitoring program as determined by EPA.

3.2.2 Groundwater Remediation Performance Standards

Settling Defendants shall design, install and operate a groundwater remediation system which shall achieve the Performance Standards including those set forth in Table 3.2.

3.2.3 Shut Down of Discrete Portions and Shut Off Criteria

3.2.3.1 Shut Down Procedures

With respect to the groundwater remedy set forth in the ROD, the Settling Defendants shall extract and treat water for at least five (5) years from that portion or those portions of the Site where contaminant concentrations exceed groundwater Performance Standards identified in the ROD. At such time thereafter as Settling Defendants demonstrate to the satisfaction of EPA that concentrations of all contaminants for which Performance Standards are set are at or below such standards at one or more wells for each groundwater monitoring event over a period of one year (but including at least two monitoring events), Settling Defendants may, after receiving written concurrence from EPA, cease operation of that portion or portions of the groundwater extraction and treatment system relevant to the location or locations where contaminant concentrations have been determined to be at or below groundwater Performance Standards. Notwithstanding such successful demonstration, no part of the groundwater extraction system may be shut off if that part is deemed necessary by EPA to maintain proper capture zones and hydraulic containment at any other part of the groundwater extraction system.

3.2.3.2 Demonstration

After such cessation, Settling Defendants shall demonstrate to the satisfaction of EPA, in each of the next four consecutive monitoring events, (see Table 3.1) that contaminant concentrations in the

TABLE 3.2

GROUNDWATER PERFORMANCE STANDARDS
HASSAYAMPA LANDFILL SITE

<i>Chemical</i>	<i>Performance Standard ($\mu\text{g/L}$)</i>
acetone	700
benzene	5
methyl ethyl ketone	170
chlorobenzene	100
chromium (total)	50
dichlorodifluoromethane	1400
1,1-dichloroethane	na
1,2-dichloroethane	5
1,1-dichloroethylene	7
1,2-dichloroethylene (cis)	70
1,2-dichloroethylene (trans)	100
dichloromethane	5
1,2-dichloropropane	5
tetrachloroethylene	5
toluene	1,000
1,1,1-trichloroethane	200
trichloroethylene	5
trichlorofluoromethane (Freon 11)	2,100
trichlorotrifluoroethane (Freon 113)	210,000
trihalomethanes (total)	100
vinyl chloride	2
xylene (total)	10,000

location or locations where such concentrations were demonstrated to be at or below groundwater Performance Standards remain below such standards. If Settling Defendants cannot make such a demonstration, Settling Defendants shall recommence operation of that portion or portions of the groundwater extraction and treatment system relevant to the location or locations where contaminant concentrations exceed groundwater Performance Standards. No sooner than one year after recommencing operation of that portion or portions, Settling Defendants may again seek concurrence from EPA under the requirements of Section 3.2.3.1 to shut down that portion. The groundwater Performance Standards are shown in Table 3.2.

Settling Defendants shall ensure that Volatile Organic Compound ("VOC") air emissions shall comply with the limit placed on VOC emissions in the January 1991 implementing guidelines for Maricopa County Rules 210, 320 and 330. If the three (3) pounds per day VOC limit is exceeded, Settling Defendants shall add vapor phase carbon adsorption to the air stripper.

3.2.4 Final Demonstration of Compliance

Requirements for post shut down monitoring and the demonstration of compliance with the Performance Standards over the entire Site following the shut down of the last portion of the groundwater remedy shall be proposed by Settling Defendants and determined by EPA in the Performance Standards Verification Plan.

4.0 REMEDIAL DESIGN AND REMEDIAL ACTION

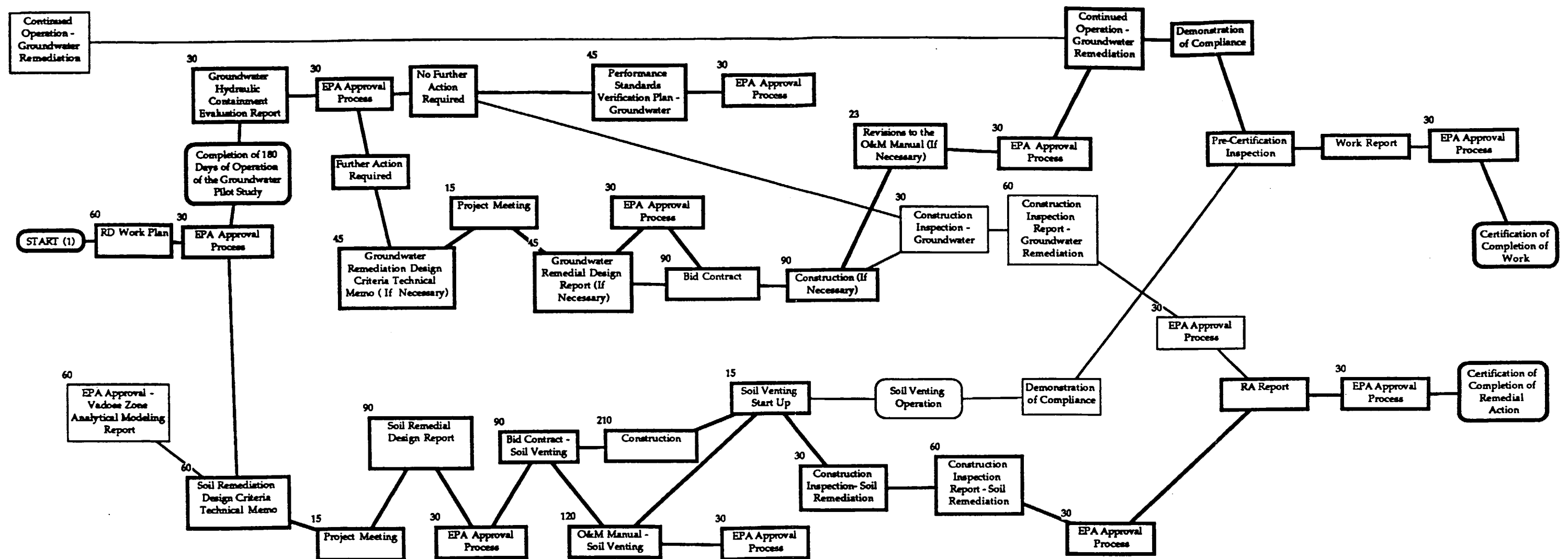
The specific details of the activities required under this SOW are to be set forth in the Remedial Design ("RD") Work Plan.

This section describes the individual tasks to be completed during soil remediation and groundwater remediation design activities. These tasks will be reported in Deliverables, Technical Memos and Technical Proposals ("Submittals"), as defined below.

"Deliverables" are documents including reports which shall be submitted by the Settling Defendants for EPA review and approval. The mechanism for the Settling Defendants to respond to EPA comments, if necessary, is provided in the CD. Deliverables are listed in Table 4.1.

"Technical Memos" are those documents which present elements of RD or field activities for review at Project Meetings of the Technical Work Group. Such meetings may be held in person or by teleconference; and are to be held within the time frames specified on Figure 4.1 and will be documented by the Supervising Contractor. At the conclusion of the Project Meeting, the Settling Defendants shall request EPA to provide written concurrence with the actions described in the Technical Memo as proposed by Settling Defendants or as modified by the parties at the meeting. This concurrence shall consist of a letter transmitted by facsimile to the Supervising Contractor stating EPA's concurrence with the Technical Memo. EPA may specify changes to the Technical Memo.

"Technical Proposals" are those documents which propose limited scope technical work or confirmation that a certain activity has taken place. The Settling Defendants shall request written EPA concurrence with the actions described in the Technical Proposals without a Project Meeting. This concurrence shall consist of a letter transmitted by facsimile to the Supervising Contractor stating EPA's concurrence with the actions in the Technical Proposal. EPA may specify modifications to the Technical Proposal.



NOTES:

(1) START DATE IS CONSENT DECREE LODGING
 45 DURATION OF ACTIVITY
 EPA UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 O&M OPERATION AND MAINTENANCE
 THE DATES SHOWN ABOVE MAY BE MODIFIED BY SECTION 4.5 OF SOW

FIGURE 4.1

RD/RA TIMETABLE
 CONSENT DECREE SOW
 HASSAYAMPA LANDFILL
 Maricopa County, Arizona

TABLE 4.1

**DELIVERABLES - RD/RA
HASSAYAMPA LANDFILL
MARICOPA COUNTY, AZ**

1. RD Work Plan
2. Soil Remedial Design Report
3. Operations and Maintenance Manual - Soil Venting
4. Construction Inspection Report - Soil Remediation
5. Hydraulic Containment Evaluation Report
6. Groundwater Remedial Design Report (if necessary)
7. Revision to the O&M Manual (if necessary)
8. Performance Standards Verification Plan
- Groundwater (if Revisions to O&M Manual not necessary)
9. Construction Inspection Report - Groundwater Remediation
10. Remedial Action Report
11. Work Report

4.1 RD WORK PLAN

Settling Defendants shall submit a Remedial Design Work Plan. Upon receipt of EPA approval of the Remedial Design Work Plan, Settling Defendants shall implement the Remedial Design Work Plan in accordance with the design management schedule contained therein and as described below. Review and/or approval of design submittals only allows Settling Defendants to proceed to the next step of the design process. It does not imply acceptance of later design submittals that have not been reviewed, nor does it imply that the remedy, when constructed, will meet Performance Standards.

The RD Work Plan shall include: a comprehensive description of the plans and specifications to be prepared; and a comprehensive design management schedule for the completion of each major activity and submission of each Deliverable. Specifically, Settling Defendants shall include in the RD Work Plan:

- a. A summary of the existing data including physical and chemical characteristics of the contaminants identified and their distribution among the environmental media at the Site.
- b. A detailed description of the tasks to be performed, information needed for each task, and information to be produced during and at the conclusion of each task, and a description of the work products that shall be submitted to EPA.
- c. A project management plan, including a data management plan, which shall address the requirements for project management systems, including tracking, sorting, and retrieving the data along with an identification of the software to be used, minimum data requirements, data format and backup data management. The plan shall address both data management and document control for all activities conducted during the RD/RA.

- d. At EPA's request, Settling Defendants shall assist EPA in preparing and disseminating information to the public regarding the RD work to be performed.

4.2 SOIL REMEDIATION

The Deliverables for the Soil Remediation component are a Soil Remedial Design Report, an Operation and Maintenance (O&M) Manual - Soil Venting, and a Construction Inspection Report - Soil Remediation. Additionally, Settling Defendants shall submit a Soil Remediation Design Criteria Technical Memo.

4.2.1 Soil Remedial Design

Settling Defendants shall prepare a Soil Remedial Design Report, as described in Section 4.2.1.2, to provide the technical details for the implementation of the Remedial Action in a manner which complies with currently accepted environmental protection technologies and standard professional engineering and construction practices. The Soil Remedial Design Report shall include comprehensive design plans and specifications.

4.2.1.1 Soil Remediation Design Criteria Technical Memo

The Settling Defendants shall submit a Soil Remediation Design Criteria Technical Memo to EPA.

This memo will detail design assumptions and parameters including:

- a) summary of the results of the Vadose Zone Treatability Study;

- b) summary of the results of the Vadose Zone Analytical Modeling Report;
- c) basis for design of the soil venting system;
- d) piping material and sizing;
- e) treatment system design calculations and description;
- f) input/output rates and predicted effluent qualities based on treatability study data; and
- g) a discussion of the procedures which shall be utilized to maintain the integrity of the cap, including but not limited to: repairing and resealing the flexible membrane liner; and maintaining the same cap permeability as specified in the EPA approved cap remedial design.

4.2.1.2 Soil Remedial Design Report

After receipt of EPA concurrence with the Soil Remediation Design Criteria Technical Memo, Settling Defendants shall submit a Soil Remedial Design Report for construction and installation of treatment equipment for the soil venting system. The Settling Defendants shall show any modifications of the design from the original Soil Remediation Design Criteria Technical Memo and explain why these changes were made. EPA approval of the Soil Remedial Design Report is required before the Settling Defendants initiate construction of the soil venting remedy at the Site, unless otherwise specifically authorized by EPA. The Settling Defendants shall submit the items listed below as part of the Soil Remedial Design Report.

4.2.1.2.1 Design Analysis

The Design Analyses shall be an updated version of the Soil Remediation Design Criteria Technical Memo. The selected design shall be presented along with an analysis supporting the design approach and design calculations.

4.2.1.2.2 Plans and Specifications

The Settling Defendants shall include a complete set of construction drawings and specifications which describe the selected design.

4.2.1.2.3 Soil Remediation Construction Work Plan

The Soil Remedial Design Report shall include a Soil Remediation Construction Work Plan, which shall provide a description of the following items:

- a description of each construction activity and associated reporting requirements;
- a construction schedule;
- a Project Management Plan which outlines the manner in which the Settling Defendants shall select contractors and supervise construction;
- a Construction Quality Assurance Plan including quality control tests and measures to be completed by the Settling Defendants;
- a Construction Contingency Plan; and
- a construction Health and Safety Plan.

The Project Management Plan, Construction Quality Assurance Plan and Construction Contingency Plan are described in detail below.

Project Management Plan

The Settling Defendants shall submit a Project Management Plan which details how the construction activities are to be coordinated during Construction. The Project Management Plan shall designate a representative for Settling Defendants during construction and shall also identify other key project management personnel and lines of authority, and provide descriptions of the duties of the key personnel along with an organizational chart. In addition, a plan for the administration of

construction changes, and EPA review and approval of those changes, shall be included.

Construction Quality Assurance Plan

The Settling Defendants shall submit a Construction Quality Assurance Plan which ensures that the completed soil venting construction meets or exceeds all design criteria, plans and specifications set forth in the ROD. At a minimum, the Settling Defendants shall include the following elements in the Construction Quality Assurance Plan:

- a. A functional description of the quality control organization, including a chart showing lines of authority, description of the selection process for individual members of the Independent Quality Assurance Team (IQAT), and acknowledgment that the IQAT will implement the control system for all aspects of the work specified and shall report to the Project Coordinator and EPA. The members of the IQAT shall have a good professional and ethical reputation, previous experience in the type of QA/QC activities to be implemented, and demonstrated capability to perform the required activities. They shall also be independent of the construction contractor. The members of the IQAT shall be identified by Settling Defendants to EPA prior to the commencement of construction of the soil venting system.
- b. A description of the observations and control testing that will be used to monitor the construction and/or installation of the components of the soil venting construction. This includes information which certifies that personnel and laboratories performing the tests are qualified and the equipment and procedures to be used comply with applicable standards. Any laboratories to be used shall be specified. Acceptance/rejection criteria and plans for implementing corrective measures shall be addressed.
- c. A schedule for managing submittals, testing, inspections, and any other QA function that involve assuring quality workmanship, verifying compliance with the plans and specifications, or any other QA

objectives. Inspections shall verify compliance with all environmental requirements and include, but not be limited to, air quality and emissions monitoring records and waste disposal records.

- d. Reporting procedures and reporting format for QA/QC activities including such items as: daily summary reports; schedule for data submissions; inspection data sheets; problem identification and corrective measures reports; evaluation reports; acceptance reports; and final documentation.
- e. A list of definable features of the work to be performed. A definable feature of work is a task which is separate and distinct from other tasks and has separate control requirements.

Construction Contingency Plan

The Settling Defendants shall submit a Construction Contingency Plan which includes air monitoring, spill control and countermeasures plans. The Settling Defendants shall include the following items in the Construction Contingency Plan:

- a. The name of the person who will be responsible for coordinating response activities in the event of an emergency incident.
- b. A description of procedures to be followed and authorities to be contacted in the event of an emergency incident.
- c. An air monitoring plan which will incorporate the following requirements:
 - 1) The chemical constituents that were identified in Appendix A of the ROD as a basis of the sampling for and measurement of pollutants in the atmosphere.
 - 2) Personnel monitoring conducted according to OSHA and NIOSH regulations and guidance.

- 3) Provisions for notifying nearby residents, local, state and federal agencies in the event that unacceptable concentrations of airborne toxic constituents are migrating off Site.
- d. A spill control and countermeasures plan which shall include the following:
- 1) Contingency measures for potential spills and discharges of Waste Material (as defined in the Consent Decree), as a result of materials handling and/or transportation.
 - 2) A description of the methods, means, and facilities required to prevent contamination of soil, water, atmosphere, and uncontaminated structures, equipment, or material by spills or discharges.
 - 3) A description of the equipment and personnel necessary to perform emergency measures required to contain any spillage and to remove spilled materials and soils or liquids that become contaminated due to spillage.
 - 4) A description of the equipment and personnel to perform decontamination measures that may be required to remove spillage from previously uncontaminated structures, equipment, or material.

4.2.1.3 Operation and Maintenance Manual - Soil Venting

The Settling Defendants shall submit an O&M Manual for the soil remedy and its continued operation. The O&M Manual must be submitted to EPA prior to the start up of the soil venting system. The O&M Manual shall include:

1. Equipment start-up and operator training:
 - a. equipment start up routines and monitoring requirements;
 - b. technical specifications governing treatment systems;
 - c. requirements for providing appropriate service visits by experienced personnel to supervise the installation, adjustment, start-up and operation of the systems; and
 - d. schedule for training personnel regarding appropriate operational procedures once start up has been successfully completed.
2. Description of normal operation and maintenance:
 - a. description of tasks required for system operation, including maintenance of the constructed cap;
 - b. description of tasks required for system maintenance;
 - c. description of prescribed treatment or operating conditions; and
 - d. schedule showing the required frequency for each O&M task.
3. Description of potential operating problems:
 - a. description and analysis of potential operating problems;
 - b. sources of information regarding problems; and
 - c. common remedies or anticipated corrective actions.
4. Description of routine monitoring and laboratory testing of treatment systems:
 - a. description of monitoring tasks;
 - b. description of required laboratory tests and their interpretation;
 - c. required QA/QC; and
 - d. schedule of monitoring frequency and date, if appropriate, when monitoring may cease.

5. Description of alternate O&M:
 - a. alternate procedures to prevent undue hazard in the event of equipment failure; and
 - b. analysis of vulnerability and additional resource requirements in the event of equipment failure.
6. Safety Plan:
 - a. description of precautions to be taken and required health and safety equipment, for site personnel protection; and
 - b. safety tasks required in the event of equipment failure.
7. Description of equipment:
 - a. equipment identification;
 - b. installation of monitoring components;
 - c. maintenance of site equipment; and
 - d. replacement schedule for equipment and installation components.
8. Records and reporting:
 - a. operating logs;
 - b. laboratory records;
 - c. mechanism for reporting emergencies; and
 - d. maintenance Records.

Performance Standards Verification Plans

Soil and Groundwater Performance Standards
Verification Plans shall be submitted with each O&M Manual.

Once each Performance Standards Verification Plan is approved by EPA, the Settling Defendants shall implement the Performance Standards Verification Plan in accordance with the approved schedule. The

Settling Defendants shall include as attachments to the Performance Standards Verification Plan:

1. A Performance Standards Verification Field Sampling and Analysis Plan (SAP) providing guidance for all field work by defining in detail the sampling and data gathering methods to be used. This SAP shall reference the RI/FS SAP and shall address only those items which are not addressed in the RI/FS SAP.
2. A Performance Standards Verification Quality Assurance/Quality Control Plan (QA/QC) describing the quality assurance and quality control protocols which will be followed in demonstrating compliance with Performance Standards. The Performance Verification QA/QC Plan shall reference the QA/QC procedures described in the RI/FS SAP and in the UAO QAPP and shall address only those items which are not addressed in the RI/FS SAP and the UAO QAPP.
3. A delineation of those tasks and the schedule for completing the tasks that Settling Defendants shall perform to demonstrate compliance with the Performance Standards and the cleanup levels for the vadose zone. Settling Defendants shall include in the Performance Standards Verification Plan a thorough discussion of the proposed methodology Settling Defendants shall utilize to verify that the Performance Standards for groundwater and the cleanup levels for the vadose zone are being met.

4.2.2 Construction Inspection and Construction Inspection Report - Soil Remediation

At the completion of the operational test of the soil venting treatment system and after Settling Defendants conclude that the soil component of the Remedial Action has been fully performed, Settling Defendants shall schedule a Construction Inspection. Settling Defendants shall certify to EPA that the treatment equipment has been operationally tested and, based on the results of the operational test, has been observed to

perform effectively to meet the purpose and intent of the design and specifications. Participants in the Construction Inspection shall include the Project Coordinators, a representative of ADEQ, Supervising Contractor, and a representative of the construction contractor. The Inspection shall consist of a walk-through inspection of the entire project site and shall include an operational test of the treatment equipment. The objective of the inspection is to determine whether the construction is complete and consistent with the Consent Decree. Any construction items that require correction discovered during the inspection shall be identified and noted. Settling Defendants shall address these items and then submit a Construction Inspection Report - Soil Remediation. This Report shall include the following.

1. a synopsis of the work completed;
2. a certification that the construction has been completed and meets the specifications including applicable action-specific performance standards;
3. a description of how Settling Defendants will operate and maintain the treatment equipment to complete the Work;
4. as-built drawings signed and stamped by a professional engineer to certify that the drawings present a record of the completed construction;
5. an explanation of modifications to the remedial design made during the construction and why these changes were made; and
6. a discussion of how construction items which required corrective action were or will be resolved.

EPA may require the Settling Defendants to schedule an additional inspection or inspections to allow EPA to verify that all construction items that required correction have been addressed, and that the construction is complete and consistent with the CD.

For purposes of this SOW, as-built drawings shall be annotated copies of the EPA-approved and engineer certified Remedial Design drawings. The annotations made on the drawings shall be based upon measurements and observations made during construction to reflect changes

made to the work described by the drawings during construction. Upon completion of construction, the Settling Defendants' professional engineer shall sign and stamp the as-built drawings to certify that the drawings present a record of the completed construction.

4.3 GROUNDWATER REMEDIATION

The Deliverables for the groundwater remediation design component are a Hydraulic Containment Evaluation Report, the Groundwater Remedial Design Report (if necessary), the Revision to the O&M Manual (if necessary) and the Construction Inspection Report - Groundwater Remediation. Additionally, the Groundwater Remediation Design Criteria Technical Memo (if necessary) shall be submitted. A Performance Standards Verification Plan shall be submitted as a separate Deliverable if no further action is necessary for groundwater remediation. If further action is necessary for groundwater remediation, the Performance Standards Verification Plan shall be included as a component of the Revision to the O&M Manual.

4.3.1 Hydraulic Containment Evaluation Report

Settling Defendants shall submit a Hydraulic Containment Evaluation Report. The Report shall include:

- a) a summary of all data collected during the hydraulic containment evaluation period, which include, but are not limited to, pumping test evaluations, water level measurements and effectiveness of the treatment and groundwater reinjection system;
- b) a groundwater level contour map of the Site showing Unit A groundwater flow during the evaluation period;

- c) relevant calculations used in the hydraulic containment evaluation; and
- d) a summary of the results of the evaluation including a statement whether or not containment has been or is likely to be achieved, which may include a comparison of the containment model to actual field results obtained during the containment evaluation period; whether or not the relevant Performance Standards are being met and a recommended course of action.

If, in approving the Groundwater Hydraulic Containment Evaluation Report, EPA concludes that no further Remedial Action is required for groundwater, then Settling Defendants shall proceed to submit a Performance Standards Verification Plan, as described in Section 4.3.2.2.4, and a Construction Inspection Technical Proposal - Groundwater Remediation as described in Section 4.3.3.

If in approving the Groundwater Hydraulic Containment Evaluation Report, EPA concludes that further Remedial Action is required, then Settling Defendants shall proceed with the remedial design activities described below before proceeding to submit the Construction Inspection Technical Proposal - Groundwater Remediation as described in Section 4.3.3.

4.3.2 Groundwater Remedial Design

4.3.2.1 Groundwater Remediation Design Criteria Technical Memo

If EPA determines, based on the results of the Hydraulic Containment Evaluation Report, that additional groundwater remedial design is necessary, Settling Defendants shall submit a Groundwater Remediation Design Criteria Technical Memo for Remedial Design.

The memo will include the following design assumptions and parameters:

- a. groundwater quality characterization;
- b. basis for modification to the design of the extraction well network;
- c. piping material and sizing;
- d. treatment system design calculations and description;
- e. input/output rates and predicted effluent qualities;
- f. basis for any additional reinjection well design; and
- g. a discussion of the procedures which shall be utilized to maintain the integrity of the cap, including but not limited to: repairing and resealing the flexible membrane liner; and maintaining the same cap permeability as specified in the EPA approved cap remedial design.

4.3.2.2 Groundwater Remediation Design Report

After receipt of comments on the Groundwater Remediation Design Criteria Technical Memo, Settling Defendants shall submit a Groundwater Remedial Design Report for construction and installation of additional extraction, treatment and/or reinjection equipment for groundwater remediation. EPA approval of the Groundwater Remedial Design Report is required before the Settling Defendants initiate construction of a groundwater remediation system at the Site, unless otherwise specifically authorized by EPA. The Settling Defendants shall submit the items listed below as part of the Design Report.

4.3.2.2.1 Design Analyses

The Design Analyses shall be an updated submittal of the Groundwater Remediation Design Criteria Technical Memo, which was completed under the UAO, and shall clearly show any modifications of the design from the original Groundwater Remediation Design Criteria Memo and explain why these changes were made. The selected design shall be

presented along with an analysis supporting the design approach and design calculations.

4.3.2.2.2 Plans and Specifications

The Settling Defendants shall include a complete set of construction drawings and specifications which describe the selected design.

4.3.2.2.3 Groundwater Extraction/Treatment/Reinjection Construction Work Plan

The Settling Defendants shall include a Groundwater Extraction/Treatment/Reinjection Construction Work Plan including the following items:

- a description of each construction activity and associated reporting requirements;
- a construction schedule;
- a Project Management Plan which outlines the manner in which the Settling Defendants will select contractors and supervise construction;
- a Construction Quality Assurance Plan including quality control tests and measures to be completed by the Settling Defendants;
- a Construction Contingency Plan; and
- a construction Health and Safety Plan.

The Project Management Plan, Construction Quality Assurance Plan and Construction Contingency Plan are described in Section 4.2.1.2.3, above.

4.3.2.2.4 Revisions to the Operation and Maintenance Manual

Settling Defendants shall submit Revisions to the O&M Manual for the modifications to the Groundwater Pilot Study O&M Manual. The Revisions to the O&M Manual must be submitted to EPA prior to the operation of any additional groundwater extraction, reinjection and/or treatment equipment. The Revision to the O&M Manual, which includes the Performance Standards Verification Plan, shall include the requirements outlined in Section 4.2.1.3.

4.3.3 Construction Inspection and Construction Inspection Report - Groundwater Remediation

Upon approval of the Groundwater Hydraulic Containment Evaluation Report or at the completion of the operational test of the modifications to the groundwater treatment system and after Settling Defendants conclude that the Groundwater Remedial Action has been fully performed, Settling Defendants shall schedule a Construction Inspection. Settling Defendants shall certify to EPA that the treatment equipment has been operationally tested and, based on the results of the operational test, has been observed to perform effectively to meet specifications and the purpose and intent of the design. Participants in the Construction Inspection shall include the Project Coordinators, a representative of ADEQ, the Supervising Contractor, and, if additional construction was required, a representative of the construction contractor. The Construction Inspection shall consist of a walk-through inspection of the entire project site and shall include an operational test of the treatment equipment. The objective of the inspection is to determine whether the construction is complete and consistent with the Consent Decree. Settling Defendants shall address the discrepancies and/or outstanding construction or treatment equipment items identified by EPA and shall submit a Construction Inspection Report. This Report shall include the following:

1. a synopsis of the work completed as defined in this SOW;

2. a certification that the construction has been completed and meets the specifications including applicable action - specific performance standards;
3. a description of how Settling Defendants will operate and maintain the treatment equipment to complete the Work;
4. as-built drawings signed and stamped by a professional engineer to certify that the drawings present a record of the completed construction; and
5. an explanation of modifications made during the construction and why these changes were or will be made.

4.4 REMEDIAL ACTION AND WORK REPORTS

Settling Defendants shall submit a Remedial Action Report for soil and groundwater remediation, cap construction (completed under UAO), access restrictions and deed restrictions for EPA review and approval pursuant to Paragraph 55 of the Consent Decree.

The Settling Defendants shall submit a Work Report for EPA review and approval pursuant to Paragraph 56 of the Consent Decree. The Settling Defendants shall include in the Work Report:

1. a synopsis of the Cap Construction Inspection Report submitted under the UAO, the Construction Inspection Report - Soil Remediation and the Construction Inspection Report - Groundwater Remediation;
2. a synopsis of the operation and maintenance and long-term monitoring of the remedial components;

3. a summary of all analytical data for the monitoring of the soil and groundwater remedies;
4. an evaluation of system performance and confirmation that the remedial systems have met the Performance Standards, in accordance with the requirements of the Performance Standards Verification Plan (see Sections 4.2.1.3 and 4.3.2.2.4);
5. a statement by a registered professional engineer and the Settling Defendants' Project Coordinator that the Work has been completed in full satisfaction of the requirements of the Consent Decree and a request for certification by EPA that the Work has been fully performed;
6. a statement by a responsible corporate official of a Settling Defendant or the Settling Defendants' Project Coordinator:
To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.
and;
7. an explanation of modifications made during the Work and why these changes were made.

The Work shall not be considered complete until EPA certifies performance as provided in Paragraph 56 of the Consent Decree.

4.5 SCHEDULE OF DELIVERABLES, TECHNICAL MEMOS AND TECHNICAL PROPOSALS

Settling Defendants shall submit each Deliverable, Technical Memo and Technical Proposal ("Submittal") listed in Table 4.2, on

TABLE 4.2
TIMETABLE FOR RD/RA SUBMITTALS
HASSAYAMPA LANDFILL, MARICOPA COUNTY, AZ

Submittals	Due Date (i)	EPA Process (Days)
(1) Progress Reports	Within 15 days after the reporting period.	--
(2) Remedial Design Work Plan	60 Days after Start *.	30
(3) Groundwater Hydraulic Containment Evaluation Report	120 days after Start (ii).	30
(4) Soil Remediation Design Criteria Technical Memo	150 days after Start (iii)(iv).	15
(5) Soil Remedial Design Report	255 days after Start (iv).	30
(6) Groundwater Remediation Design Criteria Technical Memo (if necessary)	195 days after Start (ii)(iii).	15
(7) Groundwater Remedial Design Report (if necessary)	255 days after Start (ii).	30
(8) Revisions to the O&M Manual (if necessary)	458 days after Start (ii).	30
(9) O&M Manual - Soil Venting	495 days after Start (iv).	30
(10) Construction Inspection Report- Soil Remediation	690 days after Start (iv).	30
(11) Construction Inspection Report- Groundwater Remediation	525 days after Start (ii). If no further action required, within 240 days after Start (ii).	30
(12) Performance Standards Verification Plan- Groundwater	If no further Remedial Action required, then 195 days after Start (i). If further Remedial Action required, then 480 days after Start as part of (8)(ii).	30
(13) Remedial Action Report	As determined by Paragraph 55 of the Consent Decree	30
(14) Work Report	As determined by Paragraph 56 of the Consent Decree	30

Notes:

UAO Unilateral Administrative Order.

Start* corresponds with Consent Decree lodging.

(i) subject to the provisions of Section 4.5.

(ii) If the Groundwater Pilot Study has not operated for 180 days by the time EPA approves that RD Work Plan, then the due date for these submittals shall be extended by an amount equal to 180 days minus the number of days that the Groundwater Pilot Study has been operating on the date EPA approves the RD Work Plan.

(iii) These are reference dates, not due dates and stipulated penalties are not applicable to these dates.

(iv) EPA Approval of the Vadose Zone Analytical Modeling Report (completed under the UAO) is required for these items to be initiated. If the EPA approval process for the Vadose Zone Analytical Modeling Report exceeds 60 days, then the due dates for these submittals shall be extended pursuant to the provisions of Section 4.5.

or before the date shown. Each Submittal shown on Figure 4.1 to this SOW, may require EPA approval, EPA concurrence, or a Project Meeting.

The due dates for Submittals listed in Table 4.2 assume that, for preceding Submittals:

- the EPA approval process will be concluded (either by approval or disapproval) within thirty (30) days after submission of a Deliverable;
- a Project Meeting will be held and written confirmation of the results of the Project Meeting will be provided by EPA (either concurring with or modifying the Technical Memo) within fifteen (15) days after submission of a Technical Memo; and
- the EPA concurrence process will be concluded (by a letter either of concurrence or of non-concurrence) within seven (7) days after submission of a Technical Proposal.

In the event that the EPA approval process, Project Meeting process, or EPA concurrence process for any Submittal is concluded in more days or fewer days than stated above, the due date(s) for the subsequent Submittal(s) affected by that process will be earlier or later by the corresponding number of days.

If, for any Submittal, the EPA approval process concludes with disapproval, or the Project Meeting process concludes with a modification by EPA, or the EPA concurrence process concludes with non-concurrence, Settling Defendants shall revise the Submittal accordingly and shall resubmit it within fifteen days or as otherwise provided in the Consent Decree or such other period of time as is specified by EPA. The additional time for revision and resubmittal shall not extend the due date for any Submittal listed in Table 4.2.

The numbers indicated in the upper-left corner of each box on Figure 4.1 reflect the duration of each activity and are for reference only.

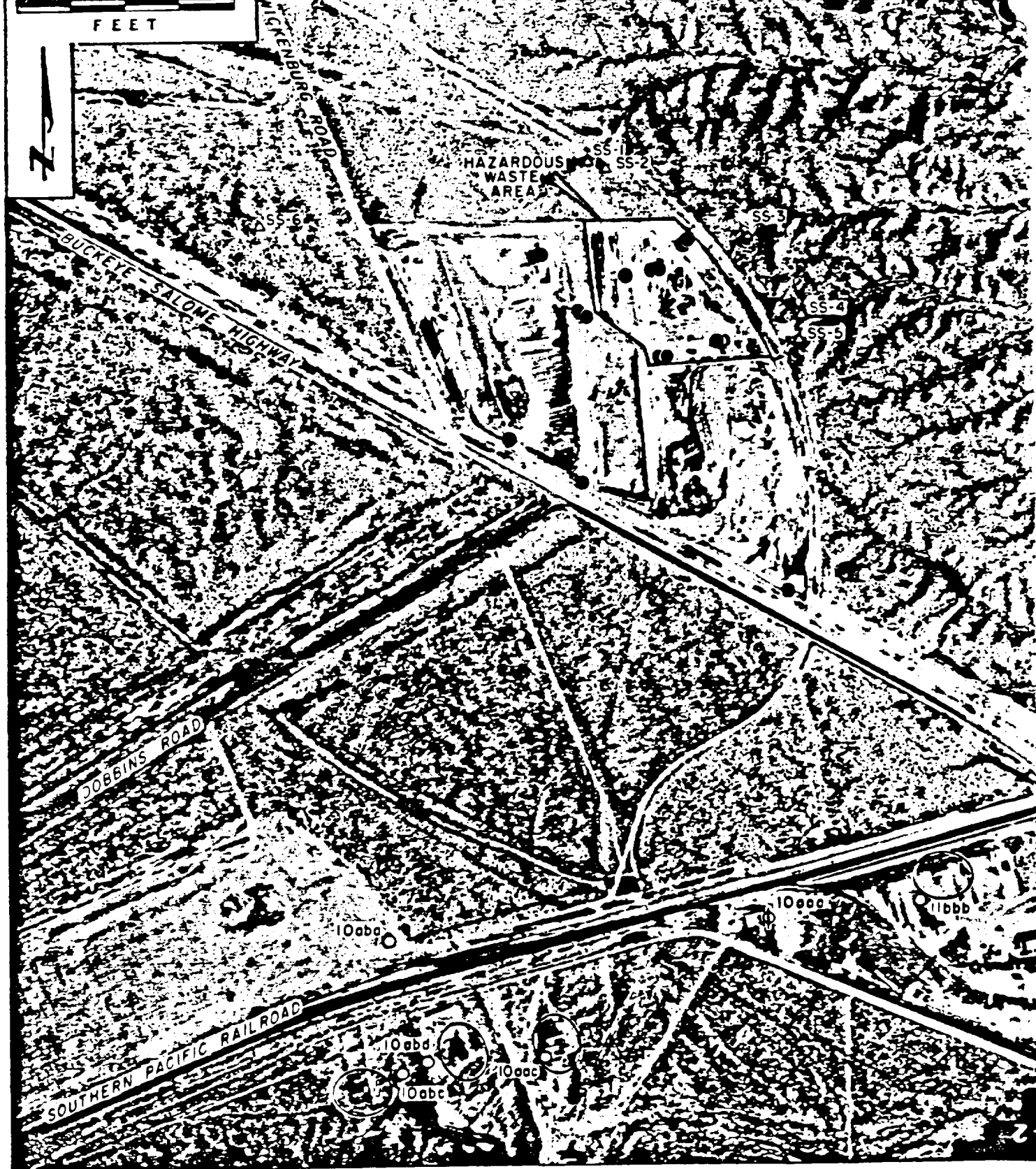
The numbers indicated in Table 4.2 show the cumulative number of days from the "Start" date, to the completion of that step. For each Deliverable listed in Table 4.1, the date in Table 4.2 for that Deliverable corresponds to the due date for that Deliverable and is a firm due date which shall be adjusted only as otherwise provided in this Section or as is otherwise provided for in the Consent Decree, including Section XIX (Force Majeure).

All schedules which are developed for these steps which are approved by EPA as part of a UAO or CD Submittal shall become enforceable in their entirety.

APPENDIX C
DESCRIPTION AND MAP OF HASSAYAMPA LANDFILL

The Hassayampa Landfill Site is located in a rural desert area approximately 40 miles west of Phoenix, Arizona. The Site is approximately three-fourths of a mile west of the Hassayampa River, one and a half miles northwest of the town of Hassayampa, three miles north of the town of Arlington, and five miles east of the Palo Verde Nuclear Generating Station (see attached map).

The Hassayampa Landfill occupies a fenced 47-acre area located on a 77-acre parcel owned by Maricopa County. the hazardous waste area of the landfill occupies a 10-acre area within the northeast section of the landfill (see attached aerial photograph of the landfill). The Hassayampa Landfill Site is made up of this 10-acre area where hazardous wastes are known to be disposed, as well as any areas where site-related contaminants have come to be located.



EXPLANATION

- MONITOR WELL
- 10aba ACTIVE WATER SUPPLY WELL
- 10aoc UNUSED WATER SUPPLY WELL
- ▲ SS-1 SURFACE SEDIMENT SAMPLING LOCATION
- OFF-SITE DWELLING

ERROL L. MONTGOMERY & ASSOCIATES, INC.
CONSULTANTS IN HYDROGEOLOGY
TUCSON, ARIZONA

FIGURE 2. AERIAL PHOTOGRAPH OF HASSAYAMPA LANDFILL ON FEBRUARY 17, 1989

APPENDIX D
LIST OF NON-OWNER SETTLING DEFENDANTS

<u>Defendant</u>	<u>Volume (gallons)</u>	<u>Percent</u>
Alcatel Network Systems	104190.7652	4.8710
American National Can Company	45926.8052	2.1471
Arizona Public Service Company	55187.3978	2.5800
AT&T Corp. (Western Electric)	66305.3954	3.0998
Bull HN Information Systems, Inc.	900323.9782	42.0905
Digital Equipment Corporation	317472.4289	14.8420
General Instrument Corporation	108272.3797	5.0618
Honeywell Inc.	114880.5531	5.3707
Intel Corporation	48087.1696	2.2481
Reynolds Metals Company ¹	14743.8515	.6893
Shell Oil Company	58106.1771	2.7165

¹ While Reynolds Metals Company has a volumetric share below the 1.5% de minimis generator cutoff, Reynolds has decided to participate in the proposed Hassayampa settlement as a major party.

APPENDIX E
LIST OF OWNER SETTling DEFENDANTS

Maricopa County is the present and former owner/operator at the Hassayampa Site.

APPENDIX F
LIST OF DE MINIMIS SETTLING DEFENDANTS

The following is a list of each of the De Minimis Settling Defendants and their corresponding volumetric share at the Site. The volumetric shares listed in this Appendix and used in calculating each De Minimis Settling Defendant's buyout amount were taken from EPA's Non-binding Allocation of Responsibility datedn May 21, 1993 ("NBAR").

1. Generator De Minimis Settling Defendants:²		
<u>Defendant</u>	<u>Volume (gallons)</u>	<u>Percent</u>
AAMco Company, Inc.	2033.2841	.0951
Action Chemical Company	6099.8524	.2852
Advanced Technology Laboratories, Inc.	0.0000	.0000
*AlliedSignal, Inc. as successor to Airesearch Manufacturing Co.	11184.8317	.5229
AMD Industries (formerly Union Manufacturing)	4666.3871	.2182
*American Parts System, Inc.	167.7459	.0078
Anocad Plating and Painting Co. Inc.	1230.1369	.0575
Arizona Precision Sheet Metal Company	2439.9410	.1141
Arizona Tank Lines, Inc.	254.1605	.0119
Ashland Chemical Company, Division Ashland Oil, Inc.	838.7297	.0392
Atlantic Richfield Company, Inc.	2033.2841	.0951
Bean & Company, Inc.	24388.0231	1.1401
*Bechtel Power Corporation	12455.1361	.5823
*Bio-Lab, Inc.	36.5991	.0017
Bud West Company, Inc.	406.6568	.0190
Champion International Corporation as successor by merger to St. Regis Corporation	10166.4206	.4753
Chevron U.S.A. Inc.	4066.5683	.1901
Churick Auto Painting, Inc. (dba MAACO Auto Painting & Bodyworks)	500.1879	.0234
Continental Circuits Corp.	21349.4833	.9981
Curry/Neal, Ltd. Partnership		
David G. Curry & Lloyd G. Neil	2033.2841	.0951
Dan J. Obele	1829.9557	.0856
Dunn-Edwards Corporation	1016.6421	.0475
Eason Waller Company	1016.6421	.0475

² All the parties marked with an asterisk ("*") were also transporters at the Site, but settled as generators. By settling as generators, each of these parties also resolved their liability as transporters.

F & B Mfg. Co., an Illinois corporation	7716.3133	.3607
*Farmers Agdustries, Inc.	95.0560	.0044
Frazee Industries, Inc. (Re: Deer-O-Paints & Chemicals)	10166.4206	.4753
Frazee Paint and Wallcoverings	5693.1956	.2662
Gilbert Engineering Company, Inc. (executed by Transitron Electronic Trust)	4281.8524	.2002
Goettl Air Conditioning, Inc.	1524.9631	.0713
Gould Inc. (including Gould Foil Division)	5591.5313	.2614
*Gowan Company	361.9246	.0169
Green Genie Nurseries, Inc.	0.0000	.0000
GTE Communication Systems Corporation (successor in interest to GTE Microcircuits division and to EMM SEMI, Inc.)	27348.7898	1.2786
*Helena Chemical Company, Inc.	143.3465	.0067
Hubble Hermetic Refrigeration, Inc.	609.9852	.0285
ITT Cannon, Inc., a Division of ITT Corporation	2704.2679	.1264
Karlson Machine Works, Inc.	2033.2841	.0951
McGraw-Edison Company, Inc.	4793.4673	.2241
McKesson Corporation	6099.8524	.2852
Motorola Inc.	3049.9262	.1426
Phoenix Heat Treating, Inc.	304.9926	.0143
Phoenix Newspapers, Inc.	9129.4457	.4268
Pierce Aviation, Inc.	0.0000	.0000
Powerine Oil Company	508.3210	.0238
Prestige Cleaners, Inc.	355.8247	.0166
*Ramada Engineering Systems, Inc.	40.6657	.0019
Ringier America, Inc. (f/k/a W.A. Krueger Co.)	19580.5261	.9154
Rogers Corporation	4168.2325	.1949
R.R. & R.R. Evans Company, Inc.	254.1605	.0119
Santa Fe Pacific Pipelines, Inc.	10166.4206	.4753
Southwest Distributing Company	12355.8610	.5776
Square D Company	2033.2841	.0951
*State of Arizona; Arizona Department of Public Safety; Arizona Department of Health Services	25.1416	.0011
Texaco Refining and Marketing Inc.	4574.8893	.2139
*The Dexter Corporation and The Mogul Corporation	872.2789	.0408
The Dial Corporation (a/k/a Armour Research Ctr.)	131.1468	.0061
*The Highsmith Company, Inc., Rolamech Division	335.4919	.0157
*The Rinchem Company	18929.8752	.8850
The Sherwin-Williams Company	2795.7657	.1307
Tiernay Turbines Company, Inc.	1230.1369	.0575
Tiernay Castings Company, Inc.	1097.9734	.0513

Treffers Precision Company, Inc.	508.3210	.0238
*Union Carbide Corporation ³	--	--

The following formula was used to calculate the maximum buyout amount for each Generator De Minimis Settling Defendant that had previously resolved its RI/FS liability at the Site:

$(10.5 \text{ million}) \times (.72) \times (\text{Generator's NBAR\%}) \times (2.0) =$
Generator's Buyout Amount

The following formula was used to calculate the maximum buyout amount for each Generator De Minimis Settling Defendant that had not previously resolved its RI/FS liability at the Site:

$[(10.5 \text{ million} \times 2.0) + (3 \text{ million} \times 1.5)] \times (.72) \times$
(Generator's NBAR%) = Generator's Buyout Amount

2. Transporter De Minimis Settling Defendants:

<u>Defendant</u>	<u>Volume (gallons)</u>	<u>Percent</u>
Arizona Petroleum Contractors & Consultants, Inc.	149767.8050	7.0017
Billy Wayne Austin (formerly d/b/a as Bill's Grading)	1961.9744	.0917
Berset Cesspool Service	26059.5981	1.2183
Chemical Waste Management, Inc.	1043383.4005	48.7786
Fred's Pumping Company	28726.2746	1.3430
Phil's Pumping & Electric Rooter Service;		
Phil's Septic Company	208900.9918	9.7662
Ted Levine Drum Company (Re: Diamond Drum Company)	33511.7202	1.5667
Valley Steel Company, Inc. (a/k/a Valley Steel & Supply Co., Valley Waste, Valley Solid Waste, and VSS Co., Inc.)	5003.0543	.2339
Waste Management of Arizona, Inc.	20497.4970	.9583
Wilbur-Ellis Company	5328.8195	.2491

The following formula was used to calculate the maximum buyout amount for each Transporter De Minimis Settling Defendant that had previously resolved its RI/FS liability at the Site:

$(10.5 \text{ million}) \times (.10) \times (\text{Transporter's NBAR\%}) \times (2.0) =$
Transporter's Buyout Amount

The following formula was used to calculate the maximum buyout amount for each Transporter De Minimis Settling Defendant that had not previously resolved its RI/FS liability at the Site:

$[(10.5 \text{ million} \times 2.0) + (3 \text{ million} \times 1.5)] \times (.10) \times$
(Transporter's NBAR%) = Transporter's Buyout Amount

³This party's volumetric share was not calculated in the NBAR due to ongoing litigation regarding the liability of this party.

APPENDIX G
LIST OF SETTLING FEDERAL AGENCIES

As reflected in EPA's Non-binding Preliminary Allocation of Responsibility dated May 21, 1993, the Settling Federal Agencies and their volumetric rankings are as follows:

<u>Agency</u>	<u>Volume (gallons)</u>	<u>Percent</u>
Luke Air Force Base	13927.9963	.6511
U.S. Air Force	3517.5815	.1644
Williams Air Force Base	2846.5978	.1331
Veterans' Administration	1277.9191	.0597
<u>U.S. Forest Service</u>	<u>6.3540</u>	<u>.0003</u>
TOTAL	21,576.4487	1.0086%

Within six months after the effective date of the Consent Decree, the United States (other than EPA) shall pay on behalf of the Settling Federal Agencies the total amount designated below to one or more of the Settling Defendants:

<u>Agency</u>	<u>Percent</u>	<u>Payment Obligation (\$)</u>
Luke Air Force Base	.6511%	\$ 61,528.95
U.S. Air Force	.1644%	\$ 15,535.80
Williams Air Force Base	.1331%	\$ 12,577.95
Veterans' Administration	.0597%	\$ 5641.65
<u>U.S. Forest Service</u>	<u>.0003%</u>	<u>\$ 28.35</u>
TOTAL	1.0086%	\$ 95,312.70

Upon making payment, the Settling Federal Agencies shall send a record of the payment to the Director, Hazardous Waste Management Division, U.S. EPA, Region IX at the address provided in Section XXVII (Notices). The record of payment shall clearly reference the "Hassayampa Landfill Superfund Site, SSID #09B8" and this Consent Decree.